Examining the Correlation between Fear of Childbirth and Postnatal Post-Traumatic Stress Disorder

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Declaration

This work is original and has not been submitted in relation to any other degree or qualification

Signed _____

Date _____

Acknowledgments

I would like to thank my supervisor Dr Liane Hayes for her support and guidance throughout the process of this study.

I also thank all of the mothers who volunteered and gave up their time to take part.

I would also like to thank my mother for all of the endless hours of support, proof reading and childcare provision.

Dedicated to my daughter, Isabella Rose.

EXAMINING THE CORRELATION BETWEEN FEAR OF CHILDBIRTH AND POSTNATAL POST-TRAUMATIC STRESS DISORDER

University of Chester

Department of Psychology

Research Module Meeting Log 2016/2017

NAME: Georgina Goodyear

SUPERVISOR: Liane Hayes

Date	Discussion topics
24th January	Discuss research project ideas
31st January	Discuss background literature and research question. Begin to write ethics application.
10th May	Ethics application approved, discuss beginning data collection
24th May	Progress report on data collection. Issues in recruiting participants, aim to carry out another recruitment drive.
7th June	Discuss writing up methodology. Make notes of issues presented so far for discussion section.
15th June	All participant data collected. Discuss analyses to be carried. Conduct statistical tests and write up results section.
28th June	Methodology and Results section drafted. Introduction to be written up.
26th July	Introduction, Method, and Results draft submitted
10th August	Feedback for Introduction, Method, and Results sections. Edit and write up Discussion section.
23rd August	Discussion draft submitted.
30th August	Feedback for discussion section. Edit discussion and format dissertation ready for submission.

SIGNED

STUDENT _____ DATE: _____

SUPERVISOR _____ DATE: _____

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Abstract

The aim of this study was to investigate the relationship between Fear of Childbirth and Postnatal Post-Traumatic Stress Disorder. These are two under researched areas of Psychology and maternal mental health is a serious psychological, medical and social concern. There is literature to suggest that suffering from a severe fear of childbirth and subsequent symptoms of trauma can have a grave impact on a postnatal woman's life, negatively affecting the mother-infant relationship and thus hindering the development of the child. In order to investigate the relationship between the two co-variables, this study adopted a within-subjects design. Women who had given birth within the last two years were invited to participant by completing an online survey. The perceived fear of childbirth that had been experienced by mothers during labour was measured using a numeric total fear score, attained by the Wijma Delivery Expectancy/Experience Questionnaire (WDEQ-B; Wijma, Wijma, & Zar, 1998). Reported symptoms of Post-Traumatic Stress Disorder that were attributed to the experience of childbirth were measured using a numeric total score, attained by the Impact of Events Scale – Revised (Weiss, 2007). A Cronbach's Alpha suggested that the results and questionnaires displayed a high reliability and internal consistency. A Pearson product-moment correlation coefficient demonstrated a positive correlation between Fear of Childbirth and trauma symptoms experienced by women. Multiple linear regressions demonstrated how participant demographics such as age, parity, and time since delivery influenced both fear of childbirth and trauma experienced. The findings of this study suggest that there is a relationship between Fear of Childbirth and Postnatal Post-Traumatic Stress Disorder and further research is required in order to contribute to these being recognised as clinical psychological disorders. This would benefit the maternal healthcare community as it would inform interventions and support mechanisms to be provided by healthcare professionals to perinatal women in order to attempt to reduce the negative mental impacts of childbirth.

Examining the Correlation between Fear of Childbirth and Postnatal Post-Traumatic Stress Disorder

The Experience of Childbirth

The act of childbirth is a unique and natural phenomenon (Chertok, 2013). Childbirth has been described as being the most painful event that a woman can experience (Lally, Murtagh, Macphail, & Thomson, 2008), and is well-defined with a severe and incomprehensible pain (Brownridge, 1995). Thus, research must continue to investigate the phenomenon of childbirth - particularly as it is vital for the survival of the human race (Tew, 2013). The importance of researching lived experiences, or conducting phenomenological research, is that it allows us to interact and connect with the world and our experiences on a much more profound level (Van Manen, 2016).

A total number of 696,271 live births were recorded in England and Wales in 2016 (Office for National Statistics, 2017). It is estimated that there were around 258 births worldwide for every minute during the same year (Central Intelligence Agency, 2016). Tew (2013) examines how over the last half a century medical advancements have exhibited a substantial improvement in maternity care, knowledge and technology. This has allowed for a 'safe' pregnancy and childbirth for both mother and baby. Despite these figures and the assurance of medical stability, birth rates continue to show a decrease in number year after year (Soloway, 2014).

There are several lines of argument as to why a decline in birth rates is observed. It is thought that economic recession in Western countries has deterred young persons from starting a family, particularly as the financial demands and constraints of providing for a child are prohibitive (Sobotka, Skirbekk, & Philipov, 2011). Alongside the increasing financial costs, the rising numbers of women accessing higher education and having structured

professional careers is thought to delay the marital process and has displayed a shift in the dynamics of romantic and family relationships (Chizuko, 1998). The ability to delay childbearing has been facilitated by the widespread introduction and accessibility of oral contraceptives since the 1960s (Easterlin, 1973). Aries (1980) presents the notion that contraceptive technology has been 'perfected', thus allowing women to only have children when, or if, they wish and choose to. It is apparent that low fertility and birth rates in Western society are resultant of a combination of both social and economic factors (Kohler, Billari, & Ortega, 2002). There is a paucity of literature examining why women and couples may decide to have, or decide against having children. It is thought that this may be resultant of individuals selecting the option to delay parenthood to a later stage in life rather than avoid producing offspring altogether (Mills, Rindfuss, McDonald & Te Velde, 2011).

The research examined so far has demonstrated a great focus upon the social factors and influences that affect child bearing. Grantly Dick-Read has been portrayed as a pioneer in the research and development in the understanding of childbirth as a personal experience (Kitzinger, 2012; Caton, 1996). As a physician working on maternity wards in the early 20th century, he recognised that women's thought processes and mental reactions to childbirth had an effect on the physical progression and experience of their delivery, however a mother's emotional state was generally neglected and disregarded by medical professionals during labour. Ina May Gaskin (2013) discusses how there has always been a great emphasis on the physiological components of childbirth within the medical fields of research and practice. She attributes Grantly Dick-Read for being the first to introduce the concept of childbirth as being a biological process that occurs best when the mother is within the correct frame of mind. That is, that the emotional and psychological state of the mother is essential for a successful labour (Dick-Read, 1933). Here it can be questioned as to what can be interpreted as being in the 'correct' state of mind for childbirth. Duncan and Bardacke (2010) reported that by adopting 'mindfulness', women feel that they are more able to cope with pain and fear during the birth experience. Mindfulness in this context

refers to the mental state of being aware and attentive of what is happening in the present (Brown & Ryan, 2003). Hughes et al. (2009) found that expectant mothers have a fear of not being able to cope with the pain during childbirth and of not being in control. They suggest that mindfulness is a way in which perceptions and experiences of pain can be adjusted, which is effective insomuch as emotional pain is reportedly linked to physical pain (Vastag, 2003). Accordingly, Dick-Read's work mainly focused on reducing women's fear of childbirth, as it is thought that this is one of the biggest contributors to experiencing pain (Talbot, 2012; Dick-Read, 2013).

Since the publication and success of Dick-Read's book '*Childbirth without Fear*' (1944) there is an observable shift in the ideologies and epistemologies surrounding childbirth towards a focus on how to best accommodate a mother's own wishes (Toronchuk, 2015; Brook, 2014). As pain during labour has been reported as being a significant component of pregnant women's perceived fear, research examining maternal experiences of childbirth has identified that it is of paramount importance to women that they have as much of a pain free labour as possible (Dahlberg, Berg, & Lundgren, 1999). In saying so, it is also believed that experiencing pain during labour is natural and greatly contributes to the psychological transition to motherhood (Lundgren & Dahlberg, 1998). Downe & McCourt (2008) present childbirth as a rite of passage, in which experiencing and overcoming the pain is a demonstration of maternal strength, fearlessness, and ability to defend and protect their young. These viewpoints contribute to the debates surrounding medical pain relief and intervention during labour. Many women deflect from the medically recommended conventional methods and opt for alternative pain relief such as hypnosis and the psychoprophylactic methods that were introduced by Dick-Read and his contemporary Fernand Lamaze (Tournaire & Theau-Yonneau, 2007; Dick-Read, 1933; Lamaze, 1956). The rationale for this can be derived from research findings which suggest that satisfaction with pain relief in labour is linked to feelings of being in personal control (McCrea & Wright, 1999). This is reiterated by the notion that loss of control is another significant contributor of

the fear and anxiety experienced by women during labour (Hughes et al., 2009). The significant importance of women being able to retain control during labour can be observed in the implementation of medical investigations and trials, where self-administered pharmaceutical pain relief has been found to be effective (Gambling, McMorland, Yu, & Laszlo, 1990; Rosen, 2002).

The evidence thus far suggests that there is a connotation that women have a desire to be able to control and manage their pain during labour (Smith, Collins, Cyna, & Crowther, 2006). It can be argued that there is an anticipation of pain during labour which is both expected and accepted (Wolf, 2011), however it is the loss of control and subsequent experiences of severe pain that are responsible for a woman's fear of childbirth. The significance and severity of suffering a fear of childbirth can be further examined.

Fear of Childbirth

Hofberg and Brockington (2000) are recognised as being the first researchers to attempt to classify fear of childbirth as a medical condition (Scollato & Lampasona, 2013). They were the first to introduce the term 'Tokophobia', which refers to a pathological phobia of childbirth (Hofberg & Brockington, 2000). Fear of pain is reported as often being the reason for fearing delivery (Hofberg & Ward, 2003). There is some suggestion that Tokophobia is a symptom of depression that is triggered by thoughts and fears of complications that could occur during labour (Storksen, Eberhard-Gran, Garthus-Niegel, Eskild (2012); Hofberg & Ward, 2007). In circumstances where Tokophobia is present, the fear experienced is so intense that women will explicitly attempt to avoid pregnancy and childbirth wherever possible (Hofberg & Ward, 2003). It is thought that Tokophobia may be another significant factor in modern day women's decision to delay childbearing and have fewer numbers of children (Lee, 2006). Estimates demonstrate that 20% of women report an experienced fear of childbirth, 6% of women describe the fear as debilitating and a further

13% of nulliparous women report that their fear of childbirth is so intense they avoid pregnancy altogether (Holfberg & Ward, 2003; Holdsworth-Taylor, 2010). Tokophobia has been distinguished as 'Primary Tokophobia', referring to women who have a fear of childbirth despite not having any experience of pregnancy, and 'Secondary Tokophobia', referring to women who have developed a morbid fear of childbirth following a traumatic delivery from a previous pregnancy (Bhatia & Jhanjee, 2012). From this we can infer that fear of childbirth significantly influences childbearing decisions and affects both nulliparous and parous women alike.

Despite this evidence, Tokophobia is considered to be a concept within Psychology that is often overlooked (Onley, 2008). It has been described by Saisto & Halmeskmaki (2003) as a '*neglected dilemma'*. Tokophobia is a condition that has not yet been recognised as a clinical medical disorder, and there is no listing of a morbid pathological fear of childbirth in the DSM-V (American Psychiatric Association, 2013). Considering how fear of childbirth is thought to lead to a negative delivery experience, cause subsequent mental health issues, and negatively impact on the child (Hamama-Raz, Sommerfield, Ken-Dror, Lacher, & Ben-Ezra, 2017), there needs to be further research into this area of maternal mental health. Research needs to contribute to concrete knowledge in order to establish a recognised clinical fear of childbirth, or as suggested, 'Tokophobia'. For the purpose of this study we will therefore first investigate women's experiences of fear of childbirth

The importance of researching fear of childbirth can be attributed to the relationship between experiencing fear and subsequent mental health issues, particularly as suicide has now become the leading cause of maternal mortality (Oates, 2003). Classic theorists such as Bowlby (1951) were acutely aware of the impact that maternal mental health has on the emotional, cognitive, and physical development of the child. This has mainly been associated with the effect that the mother's emotional state has on the parent-child dyad (Steiner, 2002). There has been a significant clinical focus on Postnatal Depression (Cooper & Murray, 1998) as this is considered to be the most pertinent maternal mental health issue,

with a reported 13% of postpartum women currently being diagnosed with the disorder (World Health Organisation, n.d.). This figure is consistent with those in O'hara and Swain's (1996) meta-analysis of empirical research investigating Postnatal Depression. As Tokophobia has been proposed as a symptom of Perinatal Depression (Hofberg & Ward, 2007), it is somewhat predictable that there is a range of literature demonstrating an association between a fear of childbirth and Postnatal Depression. The existing research presents a fear of childbirth as a predictor of Postnatal Depression (Alipour, Lamyian, & Hajizadeh, 2012; Räisänen, Lehto, Nielsen, Gissler, Kramer & Heinonen; 2013). In saying so, there is conflicting evidence to suggest that fear of childbirth does not predict depression but has more significantly indicated an association with symptoms of Post-Traumatic Stress Disorder (Fairbrother & Woody, 2007).

Post-Traumatic Stress Disorder

The notion that postnatal women can suffer from Post-Traumatic Stress disorder is a relatively new concept (McKenzie-McHarg et al., 2015). Reynolds (1997) was one of the first researchers to identify childbirth as being a psychological trauma, thus indicating that the phenomenon is a potential traumatic stressor for Post-Traumatic Stress Disorder. The introduction of the concept and investigation of Postnatal Post-Traumatic Stress Disorder is subsequent to the realization and recognition that the disorder can be suffered by any individual who has experienced a traumatic life event, rather than being exclusively limited to military personnel suffering psychological distress following war or combat (Wijma, Söderquist, & Wijma, 1997; Blanchard, Hickling, Taylor, Warren, Forneris, & Jaccard, 1996; Foa, Feske, Murdock, Kozak, & McCarthy, 1991; McFarlane, 1988; Menage, 1993; Shalev, Schreiber, Galai, & Melmed, 1993). The stressor criteria for diagnosis of Post-Traumatic Stress Disorder is considerably limited and many researchers do not regard childbirth as a stressor for the condition (Wijma, Söderquist, & Wijma, 1997). This provides a plausible explanation as to why the condition remains under researched and relatively unrecognised.

A systematic review of the literature focusing on Postnatal Post-Traumatic Stress Disorder by Ayers (2004) identifies a paucity of research investigating the condition. She argues that this area of psychology is prevalent and requires attention, particularly as reports state that a third of women appraise childbirth as traumatic, with 10% having a severe traumatic stress responses to birth, and a further 1-2 % continuing to develop clinical Post-Traumatic Stress Disorder (Ayers, 2004).

The connotation of labour being perceived as a traumatic event has received some attention in recent media coverage. The Birth Trauma Association held the first Birth Trauma Awareness Week in 2017 and gained a great deal of exposure from a range of national media reports. One such report is that of Parkinson (2017), who refers to the rise in mothers within the United Kingdom who are reporting to be psychologically suffering from the traumatic effects of having experienced childbirth. These reports have created a social awareness to the concept of Postnatal Post-Traumatic Stress Disorder and identify that there is a need for academic and medical research to investigate the condition. This highlights a need for evidence to promote awareness, prevent onset and improve treatments of perinatal mental health conditions. Thus, for the purpose of this study we shall also investigate Postnatal Post-Traumatic Stress Disorder.

Tokophobia and Postnatal Post-Traumatic Stress Disorder

It has been highlighted that both Tokophobia and Postnatal Post-Traumatic Stress Disorder following a traumatic birth are still two under researched and less recognised disorders (Ayers, 2014), however we are able to consider that the perception of an event as being traumatic is subjective (Creamer, McFarlane, & Burgess, 2005). Suffering severe pain and loss of control have been pinpointed as features of childbirth that can make the experience traumatic for the individual (Reynolds, 1997). Hofberg and Brockington (2000) present sufferers of Tokophobia as describing their experiences of childbirth as *'traumatic'.*

It can be argued that constructing childbirth as traumatic is a reflection of postnatal women's own subjective perception of their delivery. It is possible that women who have not suffered from medical complications or physiological trauma may still perceive childbirth as traumatic, despite experiencing a natural labour.

Research has demonstrated that a proportion of postnatal women meet the symptom criteria for Post-Traumatic Stress Disorder, with depression and severe fear of childbirth presenting as risk factors (Söderquist, Wijma, Thorbert, & Wijma 2009). Furthermore, Garthus-Niegel, von Soest, Vollrath & Eberhard-Gran (2013) found that subjective experience and the fear of childbirth have the strongest effect on Postnatal Post-Traumatic Stress Disorder symptoms. Here we can identify how previous research indicates that severe pain and loss of control share a commonality, in that they are both believed to independently incite fear and trauma in a woman's experience of childbirth. It is also evident that there is some form of relationship between fear of childbirth and Postnatal Post-Traumatic Stress Disorder. Thus, for the purpose of this study we will aim to examine the structure of this relationship.

Research into these two areas of psychology are still subject to a great deal of criticism, mainly as attitudes portray a condemning perspective on women developing a fear of a natural physiological function, as well a reluctance to recognise childbirth as a traumatic stressor that is impactful enough to illicit Post-Traumatic Stress Disorder (Churchill, 2007; O'Connell, Leahy-Warren, Khashan, & Kenny, 2015). For these reasons, the exploration of the relationship between Tokophobia and Postnatal Post-Traumatic Stress Disorder is still very much in its infancy (Ayers, 2003). McKenzie-Harg et al. (2015) put forward a strong argument for the need for further research into both Tokophobia and Postnatal Post-Traumatic Stress Disorder to be conducted. Their rationale for this is so that findings can be readily available to inform and support the implementation of interventions, midwife care, and promote maternal mental health awareness (McKenzie-Harg, Ayers, Ford, Horsch, Jomeen, Sawyer, Stramrood, Thomson, & Slade, 2015).

The research that has been conducted to date, however, demonstrates that a relationship between Tokophobia and Postnatal Post-Traumatic Stress Disorder does in fact exist. Elmir, Schmied, Wilkes, and Jackson (2010) propose that fear of childbirth is a consequence of trauma symptoms. This is concurrent with the literature suggesting that Tokophobia is a symptom of depression that is triggered by feelings of trauma (Storksen, Eberhard-Gran, Garthus-Niegel, Eskild (2012); Hofberg & Ward, 2007). In contrast, it is also considered that fear of childbirth presents a risk factor for trauma symptoms (Otley, 2012; Fisher, Hauck, & Fenwick, 2006). Boorman et al. (2014) argue that experiencing intense fear during childbirth may even be the most diagnostically accurate cause of Postnatal Post-Traumatic Stress Disorder.

The Present Study

As an identified emerging and prevalent issue from previous research within the literature reviewed, the present study examined the relationship between fear of childbirth and symptoms of Postnatal Post-Traumatic Stress Disorder. The aim of the study was to attempt to examine a correlation between the two variables. The literature examined gives way to our hypothesis: there will be an observed correlation between fear of childbirth and symptoms of Postnatal Post-Traumatic Stress Disorder experienced (H1).

When contemplating participant eligibility and demographics, several factors present themselves as potential predictor variables for fear of childbirth and symptoms of Post-Traumatic Stress Disorder that may be experienced. Maternal age is believed to influence fear of childbirth insomuch as it has shown to increase in severity with increase in age, leading to a significant rise in elective caesarean deliveries in mothers over the age of 40 (Lin & Xirasgar, 2005; Ecker, Chen, Cohen, Riley, & Lieberman, 2001). On the other hand, Rouhe, Salmela-Aro, Halmesmaki, & Saisto (2009) found that maternal age has no effect on fear of childbirth as reported using the Wijma Delivery Expectancy/Experience

Questionnaire. In saying so, it has been shown that postnatal mental health issues are more prevalent in younger mothers (Robertson, Grace, Wallington, & Stewart, 2004). We will therefore examine how maternal age effects fear of childbirth and symptoms of Postnatal Post-Traumatic Stress Disorder, with an expectation that increase in age will display an increased level of fear of childbirth but a decrease in mental trauma symptoms experienced. This leads to our next hypotheses: there is a relationship between maternal age and fear of childbirth (H2a) and trauma experienced (H2b)

Previous experiences of childbirth have also been presented as influencing fear of childbirth and symptoms of trauma. Nulliparous women are considered to have a fear of childbirth as they fear the unknown (Storksen, Garthus-Niegel, Vangen, & Erbehard-Gran, 2012), although parous women who have had a negative experience of delivery will develop a subsequent fear of childbirth (Saisto, Ylikorkala, & Halmesmaki, 1999) and are more prone to maternal mental health issues (Fenwick, Gamble, & Mawson, 2003). We will therefore also examine how parity influences fear of childbirth and symptoms of Postnatal Post-Traumatic Stress Disorder. Taking the findings of previous research as assumed, we would expect to see a decrease in the frequency of the two variables with an increase in parity. This, however, would be thought to only be relevant in circumstances where participants had not had extreme negative previous experiences of childbirth. Thus, individuals who may have had any health issues during or following childbirth will not be invited to participate. This will account for any mothers who may perceive their delivery as distressing as a result of physically traumatic complications that may have occurred during labour, rather than their own emotional constructions of the experience. Our next hypotheses are that there is a relationship between parity and fear of childbirth (H3a) and trauma experienced (H4b).

It has been found that fear of childbirth decreases as time since delivery increases, which is believed to be the result of experiencing fear during labour influencing the postnatal cognitive appraisal of childbirth (Zar, Wijma, & Wijma, 2001). In saying so, it is also reported that women have shown to exhibit symptoms of Post-Traumatic Stress Disorder years after

having given birth (Ross, McLean, & Psych, 2006). Thus, we shall also examine how time since delivery influences perceived fear of childbirth and symptoms of Postnatal Post-Traumatic Stress Disorder. As Postnatal Post-Traumatic Stress Disorder symptoms have shown to manifest from 8 weeks post-delivery (Wenzel, Haugen, Jackson, & Brendle, 2005) and the methodology of this research relies on recollection of memory and reflection of emotions from a specific event, we will measure the perceptions of women who have given birth within the last two years. In the cases of multiparous participants, their most recent experience of childbirth will be assessed. Based on the findings of previous research, it would be expected that an increased time since childbirth will display a decrease in reported fear of childbirth. In saying so, if symptoms of Post-Traumatic Stress Disorder are present and display a prevalent risk for potential diagnosis of the disorder, it would be expected that time since delivery would not have any effect on reported trauma symptoms. Our final hypotheses are: there is a relationship between time since delivery and fear of childbirth (H4a) but time has no effect on trauma experienced (H4b).

In summary, we have explored a plethora of evidence that identifies a need for research to investigate fear of childbirth and Postnatal Post-Traumatic Stress Disorder. In order to contribute to this field of research, we shall examine the correlation between perceived fear of childbirth and experienced symptoms of Post-Traumatic Stress Disorder. We shall also examine how maternal age, parity, and time since delivery effects these two variables. Our main hypothesis is that there will be a positive correlation between fear of childbirth and symptoms of Postnatal Post-Traumatic Stress disorder experienced. Our subsequent hypotheses are that there will be observed relationships between maternal age, parity and time since delivery and fear of childbirth and trauma symptoms experienced.

Method

Participants

Participation in this research was voluntary. In order to measure fear and trauma symptoms as lived experiences, this study explored parous women and so only used participants who have given birth and been through a postnatal period. The hypotheses formulated were based on circumstances where individuals had not had extreme negative previous experiences of childbirth; thus, individuals who may have had any physical or mental health issues either during or following childbirth were not invited to participate. This was to account for any mothers who may have perceived their delivery as distressing as a result of physically traumatic complications, rather than their own emotional constructions of their experience of labour. Post-Traumatic Stress Disorder symptoms have shown to manifest from 8 weeks post-delivery (Wenzel, Haugen, Jackson, & Brendle, 2005) and as this research relied on recollection of memory and reflection of emotions from a specific event, the perceptions of women who have given birth within the last two years were measured. In the cases of multiparous participants, their most recent experience of childbirth was assessed.

The eligibility criteria for participation was women aged 18 years and over who had given birth in the last two years. Exclusion criteria involved any women who were either suffering or had suffered from severe post-natal depression, had any health issues after giving birth, had been diagnosed with or were being/had been treated for postnatal Post-Traumatic Stress Disorder or postnatal psychosis, or who may have found the topic upsetting for any reason. In addition, to further account for the sensitive nature of this subject area, participant eligibility criteria excluded any women who had been clinically diagnosed or been treated for a fear of childbirth or any form of Post-Traumatic Stress Disorder.

Participants were recruited by posting a notice on the researcher's own private Facebook page and a public notice on five 'Mum and Baby' Facebook group pages asking for volunteers to take part in the study (Appendix A). Permission was first sought from the admins of the groups by messaging them via Facebook (Appendix B) and then the notice was placed on the group public discussion pages. The notice was posted using the researcher's own personal Facebook account. The Facebook pages used were 'Chester Mummys', 'Wirral Mums Group', 'Wirral Mums', 'New Mums of Chester' and '<3 Mums Dads and Babies <3'. All groups except the latter were local to the Chester, Wirral, and North West area. A total number of 192 women responded to the notice by directly messaging the researcher.

A total number of 134 women accessed the online survey. Throughout the process of the experiment, 54 women withdrew from the study. 80 successfully completed and submitted their questionnaires.

The age of participants ranged between 19 and 44 years old. The average number of children the participants had was 1.53, ranging between 1 and 4 children. The average time since the participants had last given birth was 13.27 months. The minimum time since last given birth was 3 months, and the maximum was 24 months.

Materials

As this aim of this study was an attempt to examine a correlation between Fear of Childbirth and Postnatal Post-Traumatic Stress Disorder as variables, it was necessary to establish a numerical score by which the two components could be compared.

Fear of childbirth was measured using a revised version of the Wijma Delivery Expectancy/ Experience Questionnaire (WDEQ-B; Wijma, Wijma, & Zar., 1998) (see Appendix C for full questionnaire). The questionnaire consists of 33 items comprising of statements relating to emotions, cognitions, behaviours, fear, anxiety and stress, rated on a

6-point Likert scale. The responses on the Likert scale range from *'Not at All'* to '*Extremely'* in relation to each of the questionnaire items and provide a sum score ranging from 0 to 165 (Gartner et al., 2015; Korucku, Bulut, & Kukulu, 2014). The WDEQ-B measures postpartum women's reflective construct of fear of childbirth that they had experienced during labour (Fenaroli & Saita, 2013), with a higher sum score indicating an increased level of fear of childbirth (Gartner et al., 2015). The revised version of the questionnaire used for this experiment was translated into English from Italian by Fenaroli and Saita (2013). Analysis of the WDEQ-B has found that it shows good reliability and validity cross culturally, and displays high internal consistency as an instrument for measuring fear of childbirth (Korucku, Bulut, & Kukulu, 2012).

The Post-Traumatic Stress Disorder symptom/risk score was measured using the Impact of Events Scale – Revised (Weiss, 2007) (see Appendix D for full questionnaire). The scale is devised of a 22 item questionnaire comprised of statements which aim to measure the effect of routine life stress, everyday traumas and acute stress (Weiss, 2007). Responses range on a 5 point, 0-4 response format (Creamer, Bell, & Failla, 2003) ranging from *'Not at* All' to *'Extremely'* for each of the items and provide a total sum score with a range of 0 to 88. Scores of 24 or more are considered to display symptoms of partial Post-Traumatic Stress Disorder, with 33 or more representing the cut-off for diagnosis of Post-Traumatic Stress Disorder. The scale used is a revised version of the Impact of Events Scale (Horowitz, Wilner, & Alvarez, 1979), which was further developed to include 6 items relating to hyper arousal (Motlagh, 2010). The Impact of Events Scale – Revised has been found to be support by test – retest reliability (Horowitz, Wilner, & Alvarez, 1979) and show high internal consistency and construct validity, thus making it a useful instrument for the assessment and diagnosis of Post-Traumatic Stress Disorder (Creamer, Bell, & Failla, 2003).

The two questionnaires were formatted so that they were presented as one continuous survey divided into two respective sections. The front page of each

questionnaire contained a Participant Information Sheet (Appendix E) containing a full brief of the research and explanation that participants would be giving their full consent to participate by submitting their completed questionnaires to the researcher. The second page contained questions pertaining to participant demographics. Three questions were included to identify participants' age, parity, and time since delivery (Appendix F). The survey was also made available to be completed online. A formatted version of the brief (Appendix G) was included to indicate that participants would be giving their full consent to participate by completing and submitting the questionnaires electronically. Bristol Online Surveys was used to produce this online version of the survey, with a weblink made available to access the questionnaires and participate in the study.

Ethics

This research complied with the ethical code of conduct of the British Psychological Society and gained ethical approval by the Ethics Committee of the Department of Psychology at the University of Chester.

A number of ethical considerations came to light when deliberating participant recruitment and involvement in this area of research. Firstly, the use of mothers as participants in psychological research has a number of implications. Mothers have been found to be reluctant to openly discuss their parenting stress and depressive symptoms with professional personnel as they have a fear of being judged (Henegen, Mercer, & DeLeone, 2004). Maternal competence has also been portrayed as playing a vital role in the development of maternal confidence and the adjustment and well-being of the child (Flagler, Curry, Humenick, & Kirgis, 1988). This indicates how mothers may be reluctant to address issues surrounding their maternal mental health and negative feelings towards the birth of their child, as they may consider the presence of these to be a threat to the construction of their maternal role (Mercer, 2004). It was therefore especially important to ensure the

anonymity and confidentiality of the participant responses that were given when completing the two questionnaires for this experiment. It was also important to make it clear that participation in the study was entirely voluntary (Grant & Sugarman, 2004; Wiles, Crow, Heath, & Charles, 2008). These ethical considerations were expected to facilitate and accommodate the recruitment and retention of participants for this study.

The implications of the sensitive nature of the topic areas of the study were also considered. It is important to note that the intention of this research was in no way an attempt to diagnose a clinical Fear of Childbirth or Postnatal Post-Traumatic Stress Disorder, but simply to examine the correlation between reported symptoms of the two conditions. The study aimed to examine perceived fear of childbirth and trauma symptoms as experienced by postnatal women. This was done by using self-report measures, and so the responses given to the two questionnaires used are subjective. The assurance of confidentiality and anonymity would hopefully have encouraged accurate and honest response sets from participants. Appropriate support networks were recommended and the information for these were provided in the Participant Information Sheet, should any issues have risen following participation in this study (Appendix E).

Procedure

Participants were recruited by posting a notice on the researcher's own personal Facebook page and notices on a range of Facebook 'Mum & Baby' group pages (Appendix A). Any women who had contacted the researcher to volunteer to take part were then sent a URL web link to be able to access the questionnaires via Bristol Online Surveys. They were instructed to first read through the information page at the beginning of the survey to ensure their eligibility to participate and this also provided them with information about the research and the nature and conditions of their participation (Appendices G & H). This information page was an adapted version of the hard copy Participant Information Sheet (Appendix E)

and explained that participation was entirely voluntary and that participants had the right to withdraw at any point and without consequence. It was also here explained that by completing and submitting their questionnaires the participants would be giving their full informed consent to take part and have the information and responses they provided used in the research (Appendix G).

Any consenting participants then followed the instructions on the survey and completed the questionnaires online. This was done in the participants' own time and in an uncontrolled setting without any researcher supervision. This meant that the participants did not necessarily have to complete the questionnaires consecutively. The questionnaires could have been accessed and completed on a computer, tablet, or smart phone. Once both questionnaires had been completed, participants were instructed to press a 'Finish' button at the bottom of the web page, and were again informed that this would submit their responses and by doing so were giving their full consent for their responses to be used in this research. This page also served as a debrief, and provided the researcher's contact details for any further information or issues that may arise as a consequence of their participation (Appendix I).

Analysis and design

The co-variables of this correlation study were Fear of Childbirth and symptoms of Postnatal Post-Traumatic Stress Disorder. A perceived fear of childbirth that had been experienced by mothers during labour was measured using a numeric total fear score, attained by the Wijma Delivery Expectancy/Experience Questionnaire (WDEQ-B; Wijma, Wijma, & Zar, 1998). Reported symptoms of Post-Traumatic Stress Disorder that were attributed to the experience of childbirth were measured using a numeric total score, attained by the Impact of Events Scale – Revised (Weiss, 2007). This was a within-subjects design. A Cronbach's Alpha was conducted to evaluate the reliability of the results and internal

consistency of the questionnaires. A Pearson product-moment correlation coefficient was conducted to examine the correlation between the two variables. Multiple linear regressions were conducted to examine how the participant demographics of age, parity, and time since delivery influenced the fear of childbirth and trauma experienced respectively.

Results

For the analysis of the results, the response data was first exported from Bristol Online Surveys to SPSS. Any participant response sets that had not been completed were eliminated and discounted from the final data analysis. This removed the scores of ten participants from the original pool of 80, leaving 70 remaining data sets. As the data set number surpassed the initial intended figure of 60 participants, it was deemed acceptable to exclude incomplete surveys. This meant that it was not necessary to estimate missing values and so it was considered that, by excluding the incomplete response sets, the authenticity and validity of the results were maintained.

All scores were then zero indexed, as the score ranges of both scales that were used start with a value of 0. The reported ages of children were then converted into time in months to allow for a standardized and comparative scale for the time since having given birth. The descriptive statistics of the demographics of the participants, including age, parity, and time since having given birth, were then calculated. These are shown in the table below (Table 1).

Table 1

Mean, Range, Maximum, Minimum and Standard Deviations of the Age, Number of Children and Time Since Given Birth of participants.

	Mean	Range	Minimum	Maximum	Standard Deviation
Age	31.87	25	19	44	5.443
Number of Children	1.53	3	1	4	.675
Time Since Last Gave Birth	13.27	21	3	24	6.330

Note: Age is measured in years. Time Since Last Gave Birth is measured in months.

These results showed that the mean maternal age and number of children were concurrent with those of the British national average age of 30.3 years and 1.81 children (Office for National Statistics, 2016; Office for National Statistics, 2017). The mean time since having given birth suggested that at the time of the experiment the majority of participants had a child who was around one year of age. The age range provided a participant sample from the span of the female fertile life period. The low standard deviations of age, parity, and time since having given birth suggested that the mean values of the three demographics can be considered to be reliable.

For the response scores on the Wijma Delivery Expectancy/Experience Questionnaire (WDEQ-B), items 2, 3, 6, 7, 8, 11, 12, 15, 19, 20, 24, 25, 27, and 31 were then reverse coded. The total score for each questionnaire was then calculated for each participant using SPSS. This then provided two new variables: 'Fear Total', indicating the overall fear that was experienced during childbirth as a numeric score variable, and 'Trauma Total', indicating the overall trauma experienced as a result of childbirth as a numeric score variable. The mean, range, and standard deviation of these for this participant sample is shown in the table below (Table 2).

Table 2

Mean, Range, and Standard Deviations of Total Fear of Childbirth Scores and Total Trauma Experienced Scores

	Mean	Range	Standard Deviation
Fear Total	62.89	115.00	24.80
Trauma Total	15.44	58.00	17.76

The mean scores for both the Fear Total and Trauma Total fell within an expected parameter below the cut-off points for a clinical diagnosis of Fear of Childbirth and Post-Traumatic Stress Disorder respectively. The standard deviations were reflective of the wide ranges for both variables. It can be said, however, that the standard deviations were not excessively high and so the mean values for both the Fear Total and Trauma Total can be considered reliable. Here we can comment that the participant sample used in this study displayed a relevant level of fear of childbirth. The participant sample also displayed symptoms of Post-Traumatic Stress Disorder, although there was not a wealth of participants who met the criteria for diagnosis of the condition.

Cronbach's Alpha measure for internal consistency displayed an overall value of .633. A Cronbach's Alpha was then conducted on all items of both the Wijma Delivery Expectancy/Experience Questionnaire (WDEQ-B) and the Impact of Events Scale – Revised (IES-R) respectively. This also calculated the Cronbach's Alpha Values if Items Deleted. The observed Cronbach's Alpha value for the Wijma Delivery Expectancy/Experience Questionnaire (WDEQ-B) was .911. The observed Cronbach's Alpha value for the Impact of Events Scale – Revised (IES-R) was .952. No items were removed from the subsequent analysis of Values if Items Deleted for each of the two scales. This decision was made as a result of an absence of a beneficially higher Cronbach's Alpha coefficient, once again supporting the internal consistency reliability of the scales used in the experiment. Tables showing the SPSS outputs of these values can be seen in Appendices J and K.

A Pearson product-moment correlation coefficient was then conducted to assess the relationship between the experienced fear of childbirth and trauma experienced as a result of childbirth. There was a positive correlation between the two variables, $r = .489$, $N = 70$, $p < .001$. A scatterplot displaying the correlation between the two variables is shown below (Figure 1).

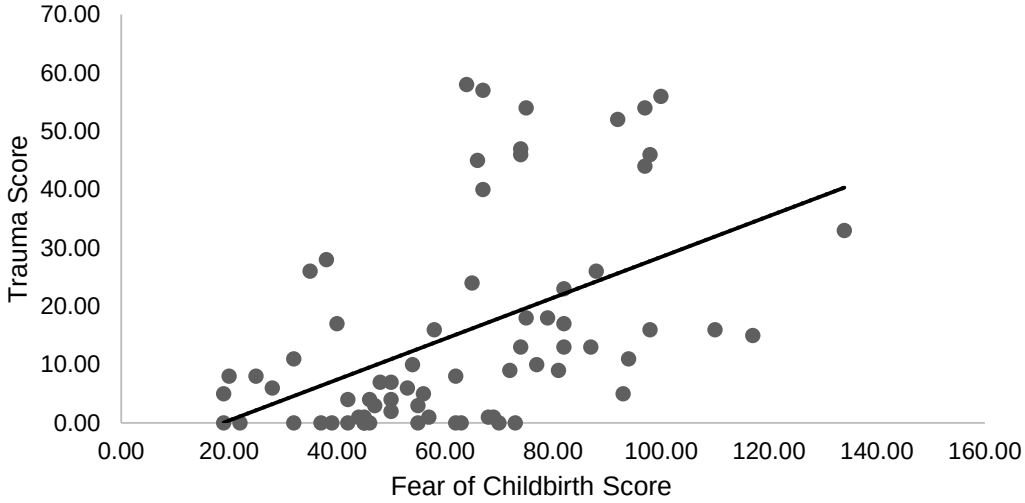

Figure 1. Scatterplot showing correlation between fear of childbirth score and trauma score

A multiple linear regression was conducted to assess if there was a relationship between the fear of childbirth experienced and the age, parity, and time since having given birth of the participants. A significant regression equation was found ($F(3, 66) = 6.602$, $p = .001$), with the predictors accounting for 19.6% of the variance. In this case only two predictors were significantly related to fear of childbirth: Age (β = -.351, $t = -3.123$, $p = .003$) and Parity (β = -.235, $t = -2.082$, $p = .041$). Time since having given birth was not found to be significantly related to fear of childbirth (β = 0.57, $t = .525$, $p = .601$) and does therefore not contribute to the variance explained in the criterion variable. We can report that the multiple regression displayed a decrease in fear of childbirth experienced as maternal age and parity increased. It also displayed an increase in fear of childbirth as time since delivery increased, although this finding was not statistically significant.

A multiple linear regression was then conducted to assess if there was a relationship between the trauma experienced as a result of childbirth and the age, parity, and time since having given birth of the participants. A significant regression equation was found ($F(3, 66) = 4.189$, $p = .009$), with the predictors accounting for 12.2% of the variance. In this case the only predictor that was found to be significantly related to the trauma experienced was Age (β= -.378, $t = -3.221$, $p = .002$). Parity (β = -.033, $t = -.281$, $p = .779$) and Time since having

last given birth (β = .082, *t* = -.281, *p* = .779) were not found to be significantly related to the trauma experienced and so do not contribute to the variance explained in the criterion variable. We can report that the multiple regression displayed a decrease in trauma experienced as maternal age increased. It also displayed a decrease in trauma experienced as parity increased and an increase in trauma experienced as time since delivery increased, although these findings were not statistically significant.

Discussion

Overall Results

The main hypothesis was that there would be correlation between Fear of Childbirth and symptoms of Postnatal Post-Traumatic Stress Disorder experienced by mothers (H1). The additional hypotheses were as follows: There would be a relationship between maternal age and fear of childbirth (H2a) and trauma symptoms experienced (H2b); There would be a relationship between parity and fear of childbirth (H3a) and trauma symptoms experienced (H3b); There would be a relationship between time since delivery and fear of childbirth (H4a) but time would have no effect on reported trauma symptoms (H4b).

When examining the correlation between Fear of Childbirth and postnatal Post-Traumatic Stress Disorder, there was an observed positive correlation coefficient of .489. This correlation was also statistically significant ($p< .001$). Although this is not a very strong correlation, it is still a figure that is acceptable and sufficiently significant to determine that there is a correlation between the two variables (Storksdieck, 2011). We can now accept the hypothesis that there is a correlation between Fear of Childbirth and symptoms of postnatal Post-Traumatic Stress Disorder (H1) and reject the null hypothesis (H0).

The multiple regressions showed a statistically significant decrease in fear of childbirth and trauma symptoms experienced as maternal age increased. Consequently, we will accept hypotheses *H2a* and *H2b.* The multiple regressions also showed a statistically significant decrease in fear of childbirth experienced as parity increased. We can therefore accept hypothesis *H3a*. All other findings were not statistically significant and so we will reject hypotheses *H3b* and *H4a.* As hypothesis *H4b* predicted that there would be no relationship between time since delivery and trauma experienced, the non-significant results support the statement and so we will accept hypothesis *H4b.*

Findings and Implications

First, it can again be acknowledged that the mean Fear of Childbirth score was considerably high and close to the cut-off point for a clinical diagnosis of Fear of Childbirth. This figure suggests that women have a reflective perception of having suffered a great deal of fear during their childbirth experience. As previous research suggests that fear of childbirth has a significant impact on maternal mental health - not just postnatal Post-Traumatic Stress Disorder - it is evident that this is an issue that needs to be addressed by the maternal healthcare community. The suggestions that interventions should be implemented to deal with the issue of fear of childbirth, both at a personal level and from a maternal healthcare professional level, are supported by the findings of the present study (McKenzie-Harg, Ayers, Ford, Horsch, Jomeen, Sawyer, Stramrood, Thomson, & Slade, 2015). The scatterplot of the results (Appendix M) demonstrates how, from the sample of 70 women, not a single participant reported to not having experienced a fear of childbirth. The lowest reported fear score was 20, which is noteworthy considering that the lowest possible attainable score was 0. There is clearly a substantial and potentially damaging fear of childbirth that has been shown to be experienced by mothers during labour. This is an issue that needs to be acknowledged and be continued to be examined in this particular field of psychological research.

The Post-Traumatic Stress Disorder symptom scores can also be reviewed. These results showed that the majority of the participants in this sample were experiencing some moderate symptoms of postnatal Post-Traumatic Stress Disorder. This contributes to the field of research which explores postnatal Post-Traumatic Stress Disorder and provides evidence to demonstrate how childbirth can be perceived as a traumatic event. Taking this participant sample as an example, it is also evident that a traumatic perception of childbirth is not all that uncommon. Therefore, more research and replications of experiments that may be similar to the present study should be conducted in order to further contribute to this

body of knowledge and establish postnatal Post-Traumatic Stress Disorder as a recognised maternal mental health condition.

The analysis of participant demographics suggests that older mothers are less prone to experiencing a fear of childbirth or exhibit symptoms of trauma. The former of these two findings was unexpected as this contradicts the results of previous research (Lin & Xirasgar, 2005; Ecker, Chen, Cohen, Riley, & Lieberman, 2001). A possible explanation for this could be derived from the same rationale as to why older women are also less likely to suffer from postnatal mental health issues and trauma, in that it is believed that they are emotionally mature and more able to rationalise negative emotions (Boivin et al., 2009). The analysis also demonstrated how fear of childbirth decreases as parity increases. This was as expected and it is in accordance with the findings of previous research, which state that nulliparous women have the greatest fear of childbirth as they do not know what to expect (Storksen, Garthus-Niegel, Vangen, & Erbehard-Gran, 2012). In saying so, the reviewed literature presents the notion that this is only applicable in cases where women have not had a previous negative or traumatic experience of labour. In such circumstances, it is thought that this would induce a fear of childbirth and cause subsequent mental health issues (Saisto, Ylikorkala, & Halmesmaki, 1999; Fenwick, Gamble, & Mawson, 2003). From this, a suggestion for further research would be to examine the extent to which a negative experience of childbirth impacts upon the development of a fear of childbirth and psychological distress. It would be expected that an increase in parity would show an increase in the frequency of the two variables in situations such as these, as recurring pregnancy and childbirth would continue to reprise the negative emotions and fears associated with the events. It can also be noted, although not statistically significant, that the findings of this study presented an increased fear of childbirth and trauma symptoms experienced as time since delivery increased. This contradicts the findings of previous research suggesting that cognitive appraisal of the memory of the experience of childbirth decreases over time (Zar, Wijma, & Wijma, 2001). A suggestion for further research would

be to address this anomaly by examining the longevity of the effects of trauma, both in the context of childbirth and other traumatic life events.

An area of concern stems from the analyses of responses from a significant proportion of the participant sample of this study. When examining the scatterplot, 17 of the participants scored above the cut-off point for Post-Traumatic Stress Disorder presenting as a clinical concern. Of these, 13 met the probable cut-off point for diagnosis of Post-Traumatic Stress Disorder, with all but one being severe enough to suppress the functioning of their immune system up to ten years after the event. 17 participants also scored above the cut-off point for a clinical diagnosis of fear of childbirth. Of all of the participants displaying clinical concerns, there were 5 who surpassed the cut-off point for both of the conditions. Although this study did not attempt to diagnose either Tokophobia or Post-Traumatic Stress Disorder, we can comment that these 5 individuals display a high risk for potentially suffering from extreme emotional and psychological distress.

Unfortunately, due to the anonymous and confidential conditions of this research, it would be impossible to identify these individuals in order to recommend support networks and suggest that they seek advice from their healthcare professionals. This highlights an issue in this type of research insomuch as it identifies individuals who may be psychologically suffering yet ethical protocol prevents researchers from intervening. The only way to do so is to provide generic contact information for the appropriate support networks and suggest that all participants seek help and advice should they feel affected by their participation in the study. This would be in the hope that those at risk are able to reflect and recognise that they require professional guidance. In order to be able to continue this type of research, strict ethical procedures must be adhered to in spite of any moral dilemma. This will allow for the continuous contribution to this area of research which will then in turn inform, educate and promote the development of interventions to attempt to prevent psychological trauma, distress and mental health issues within the maternal community. This issue can considered to be a limitation of this study and several others regarding the

methodological development and process of the research that may also now be critiqued and discussed.

Procedure and Limitations

The Wijma Delivery Expectancy/Experience Questionnaire was specifically developed as a psychological measurement of fear of childbirth (Wijma, Wijma & Zar, 1998) and is currently the most frequently used instrument to do so (Garthus-Niegel, Størksen, Torgersen, Von Soest, & Eberhard-Gran, 2011). The questionnaire has shown to have good psychometric qualities, displaying internal consistency reliability and construct validity (Korukcu, Kukulu, & Firat, 2012). Research has found that women who report a fear of childbirth in late pregnancy will continue to do so during labour and postpartum (Alehagen, Wijma, & Wijma, 2006). It can be argued here that, for the purpose of this research, it was acceptable and accurate to measure postpartum women's reflective perceptions of the fear of childbirth that they had experienced during labour. For these reasons, the Wijma Delivery Expectancy/Experience Questionnaire (WDEQ-B) was used in this experiment to measure fear of childbirth. This is the postnatal version of the questionnaire and has been adapted to measure personal experiences of childbirth, assessing constructs of fear of childbirth that were encountered during labour from a post-delivery perspective. In contrast, the prenatal WDEQ-A version measures fear according to expectations of childbirth (Fenaroli & Saita, 2013). The version of the questionnaire used in this experiment had been translated into English by Fernaroli and Saita (2013) and consists of 33 questions on a 6-point Likert Scale. This provided an overall fear of childbirth numerical score to be used in analysis.

In order to measure symptoms of postnatal Post-Traumatic Stress Disorder, the Impact of Events Scale – Revised (Weiss, 2007) was used in this experiment. This revised version of the scale is an adaptation of Horowitz, Wilner, and Alvarez (1979)'s Impact of Events Scale, and is a self-report measure of current subjective distress following a specific

traumatic event (Motlagh, 2010; Weiss, Marmar, Wilson, & Keane, 1997). The scale is very commonly used, and has been reported to show high internal consistency and have a high correlation with the Post-Traumatic Stress Disorder Checklist (Creamer, Bell, & Failla, 2003; American Psychiatric Association, 2013). It has been shown to have good psychometric qualities, displaying adequate classification accuracy, sensitivity and specificity (Rash, Coffey, Baschnagel, Drobes, & Saladin, 2008). In addition, critiques of the Impact of Events Scale – Revised have demonstrated how the scale is sensitive to a general construct of traumatic stress, rather than implementing measurement items that only aid in the diagnosis of Post-Traumatic Stress Disorder in relation to military experiences (Creamer, Bell, & Failla, 2003). It can be argued that the Impact of Events Scale – Revised was an appropriate instrument to use to measure symptoms of postnatal Post-Traumatic Stress Disorder. The scale consists of a 22 item questionnaire, on a 5-point Likert Scale. It was used in this experiment in order to provide an overall symptoms of Post-Traumatic Stress Disorder score to be used in analysis.

The statistical analyses of the results supported the notion that the two questionnaires that were selected and implemented in this study were effective and appropriate measures for this research. In saying so, we can critique the scales on a number of aspects. First, both scales used self-report measures. Although self-report measures can be praised for their practicality, interpretability and richness of data (Lucas & Baird, 2006), they can be criticised for lacking credibility and being open to both response set and social desirability bias (Paulhus & Vazire, 2007). The only way to attempt to account for this issue and avoid these biases is to ensure participant confidentiality and anonymity (Stuart & Grimes, 2009). Beneficially, the research methods that were developed and implemented in this study in order to adhere to the careful ethical considerations as discussed in the initial sections of this report, included both participant confidentiality and anonymity. It must also be taken into consideration that these measures ask participants to answer the questionnaires in reference to a specific event. In the case of the Impact of

Events Scale-Revised, participants are asked to attribute their current feelings and life difficulties to a stressful event. It is almost impossible to control or determine whether the reported feeling or experience is resultant of that particular event. For example, item 2 states *'I had trouble staying asleep'.* As difficulty sleeping is not all that uncommon in mothers with children under the age of 2, it is difficult to attribute reported problems with sleep directly to having experienced psychological trauma during childbirth. For this reason, we must have confidence that participants answered this statement in exact reference to how childbirth has affected them. In saying so, we must not disregard the possibility that responses given in this study to statements such as these may be inaccurate and untrue representations of the effects of childbirth as a traumatic stressor, and identify this as a limitation of this research.

Another critique of the questionnaires used in this study is that the acquired response data was based on subjective experience. The interpretation of statements and then relating these to perceived personal experiences will have differed between participants. The fact that the Wijma Delivery Expectancy/Experience Questionnaire had been translated from its' original Swedish version into several languages before being translated into Italian, then back translated into English may also have lead to some uncertainty in the interpretation and understanding of statements. The translation of the questionnaire used in this study had been carried out by the native Italian speakers Fenaroli and Saita (2013). For this reason, it is apparent that some of the statements may have been 'lost in translation'. For example, item 32 asks participants if they had '*fantasies like, for example that your child would die during labour/delivery'.* The word 'fantasies' is arguably not an appropriate term to use in this context and could easily have been misinterpreted and may have failed to provide an accurate and true representation of how participants felt about the intended measured aspect. This example of ambiguity can be linked to the many reasons as to why subjectivity in Psychology is often disregarded (Buytendijk, 1987). Subjectivity very much contradicts the intended objective nature of psychological scientific research (Bornstein, 1999). In the

case of this study we can question the validity of our data, insomuch as the absence of standardization in subjectivity raises concerns surrounding a lack of an objective measurement tool. In saying so, Bornstein (1999) argues that subjectivity is unavoidable and is often able to productively contribute to the field of knowledge in certain areas of psychological research. As the present study measured and analysed subjective experiences, it would be impossible to eradicate all of the limitations that are often presented with this type of research and we must evaluate the advantages of obtaining pertinent information against these methodological disadvantages. Despite the concerns raised, both the Wijma Delivery Expectancy/Experience Questionnaire (WDEQ-B) and the Impact of Events Scale-Revised have been tried and tested and have continuously shown to have good psychometric properties. For these reasons, although we must still bear the implications of subjectivity and self-reports in mind, there is evidence that there was an attempt to account for these issues to the highest possible extent in the design of this experiment.

It was observed that the sensitive nature of this study did not deter mothers from volunteering to participate, as a total number of 192 women initially contacted the researcher to express their interest in taking part. To a certain extent, this may be attributed to the ethical considerations involved in the recruitment and involvement of participants, which can here be praised for contributing to the success of this study. It can be noted that, although the aim of this study was to also recruit participants at 'Mother and Toddler' groups at local children's centres, participants were only recruited through social media. The aim was to gain 60 participant data sets, and the high volume of interest that came from advertisements on social media surpassed the intended figure. It was deemed unnecessary to recruit further participants at children's centres due to the time constraints of this study. This meant that only the online formatted version of the survey was used. The high volume of participants provided supporting evidence for the benefits of using social media for participant recruitment, particularly in the field of female health research (Wright, 2005; Kapp, Peters, &

Oliver, 2013; Fenner et al., 2012). It also provided support for the notion that individuals will participate in research if they can identify and understand its relevance (Patel, Doku, & Tennakoon, 2003). That said, a number of issues regarding participation did come to light during the process of the investigation.

It was apparent that certain demographics affected the participant recruitment stage. Only two responses came back from the nationwide 'Mum and Baby' Facebook page. All other responses came from Facebook groups that were local to the Chester and Wirral area, and from the researcher's own personal Facebook page. This contradicts the notion that individuals will participate in research solely on the basis that they are able to identify with it (Patel, Doku, & Tennakoon, 2003), which would suggest that women would have nominated themselves to volunteer in this study entirely based on the fact that they were mothers. The recruitment figures suggested that a greater motivation is required in order to encourage individuals to participate in psychological research. The fact that the advertisement posted on social media made reference to the study being conducted through the University of Chester gives an indication as to why a surge in women local to the area wished to take part. It is likely that many of the participants would have been associated in some way with the University, either as former students, employees, or simply being local to the Chester area. This affiliation with the institution or the City of Chester may have served as a motivation for their interest in taking part. This is supported by Sergent and Sedlacek (1990), who found that affiliation is the most motivating factor for an individual's desire to volunteer. This theory can also be applied to the possible motivation for volunteering from the participants who were obtained from the researcher's own personal Facebook page. These were individuals who were personally known to the researcher, and so their affiliation can be attributed to a personal association or friendship. It must also be considered that as a result of the researcher's own personal circumstances, the majority of the participants recruited in this way were local to the British Overseas Territory of Gibraltar. No literature or research examining perinatal and maternal health and psychology in this unique social compound was

found. Thus, we are unable to make a comparison to determine how the experiences of women from Gibraltar may have differed from the sample of participants obtained from the United Kingdom. In spite of this, the analysis of results does not show a distinguished data set within the sample and so it can be assumed that this geographical difference did not affect the findings of this study. The fact that both the Wijma Expectancy/Experience Questionnaire and the Impact of Events Scale-Revised have both been shown to be globally generalizable would also suggest that the validity and reliability of the results of this study were not affected by a geographical difference in so far as methodological implications are concerned. In saying so, as Gibraltar is a British colony it can be recognised as having a unique social culture that differs from that of mainland Britain (King, 2012).

A further issue surrounding involvement in this study focuses on participant withdrawal. When examining participant dropout rate, there is an observed decline in number of mothers who expressed their interest in taking part and the number of individuals who actually accessed the online questionnaire. This can be attributed to natural participant dropout rates, where it is suggested that almost 10% of participants will withdraw from a study before it begins (Hoerger, 2010). It can be noted that 30 of the 134 women who initially accessed the questionnaire withdrew from the study at the first page. It has been found that participants will drop out at these first stages as a result of a combination of the uncertainty of content that will be found later in the study and the length of the questionnaires (Hoerger, 2010). As eligibility criteria were presented in the advertisements to recruit participants, it is plausible that this dropout level was unlikely to have been a result of inability to participate. Here we can identify a limitation of this study, as this evidence suggests that the information provided in the initial sections of the survey and the length of the survey were discouraging. It was also observed that, of those participants who withdrew from the study after agreeing to take part, the majority withdrew at page 5 of the survey. This page was at the start of the second part of the survey, where the second questionnaire – Impact of Events Scale-Revised – was introduced. This supports the idea that participant

dropout in this study was a result of the survey being too lengthy. The low number of participants withdrawing from the study on the pages that contained the questionnaires suggests that the content of the questionnaires was not discouraging or harmful. This provides further support for the effectiveness and ethical validation of these questionnaires and their use in this experiment. In saying so, the manner in which the questionnaires were presented can be criticised for being lengthy.

It is worthy of comment that the number of women who contacted the researcher is still disproportionate to the expected natural dropout rate that is suggested by Hoerger (2010). This can be attributed to a high volume of mothers contacting the researcher to express that they were very much interested in taking part, however due to the eligibility criterion excluding sufferers of mental health issues including post-natal depression, they understood that they were unable to participate. A criticism of the methodology of this study derives from the sample of participants who were unable to participate or had to withdraw from the study due to having delivered their child through caesarean-section. It was reported to the researcher by several participants that they felt they could not answer the questions as they had not experienced a natural vaginal delivery. From this we can infer that the Wijma Delivery Expectancy/Experience Questionnaire (WDEQ-B) is only applicable to such type of childbirth, and is not able to be used to measure the experiences of women who have had a caesarean-section. The significance of this complication in the current study can be related to the findings of Lin and Xirasgar, (2005) and Ecker, Chen, Cohen, Riley, and Lieberman (2001). There has been an observed increase in women electing to have caesarean-sections as a result of their fear of childbirth. These choices, however, have been associated with a fear of childbirth in older women. The results of this study contradict the findings of previous research as we have identified older mothers as having a decreased fear of childbirth.

Suggestions for Further Research

A number of the methodological limitations of this study highlight areas for improvement and provide suggestions for further research. The limitations surrounding the possible misinterpretation of statements, particularly those included in the Wijma Expectancy/Experience Questionnaire (WDEQ-B), suggest that further research would perhaps reconsider the wording of items on the questionnaires so that they may be more culturally appropriate. Although none of the questionnaire items would be able to be removed, the layout of how the survey is presented could be amended in order to reduce the perceived length of the survey and encourage more participants to complete and submit the questionnaires. This would account for some of the limitations regarding high participant dropout rates.

The ethical considerations and protocol of this study also presented issues with participant withdrawal rates. The eligibility criteria of this study was too limited and discounted a large sample of potential participants. As the concise ethical considerations have shown to be advantageous, it would not be recommended that these criteria be relaxed for further research. This has given an insight into the reality of the reported high volume of women who are currently being diagnosed with post-natal mental health conditions. This gives credibility and support for the rationale of this study insomuch as it is evident that a high percentage of women are suffering from postnatal mental health issues and there is an interest from within the maternal community that continuous research is conducted in order to explore these conditions.

The ethical considerations and subsequent participant eligibility criteria of this study did not exclude women who had given birth through caesarean-section. The Wijma Delivery Expectancy/Experience Questionnaire (WDEQ-B) was found to not be applicable to measure fear of childbirth in circumstances such as these. First, for the purpose of

replication of this study, eligibility criteria should state that only women who have experienced a natural vaginal delivery are invited to participate. In addition, the methodological limitations and the contradictory findings of this study with regard to fear and maternal age and those of previous studies surrounding maternal age, fear, and birth choices has highlighted a need for further research to examine how fear of childbirth influences women's choice to have elective caesarean-sections.

The issues raised regarding possible cultural variations give rise to suggestions for further research to examine the maternal role that is unique to British culture and from this then explore how maternal mental health issues and postnatal Post-Traumatic Stress Disorder are influenced, perceived and affected by societal norms. It may also be of interest to employ the same research area and strategies to explore how these issues can currently be observed in Gibraltar.

The present study examined experiences of fear of childbirth in parous women. It has been highlighted in previous research that this fear is present during the late stages of pregnancy (Alehagen, Wijma, & Wijma, 2006). A suggestion for further research would be to explore and identify the point at which women are most likely to develop a fear of childbirth. This would indicate when interventions to mentally and emotionally prepare women for childbirth would be most effective so that this fear does not manifest and cause subsequent mental health issues. In addition, it may also be of interest to examine the fears exhibited by nulliparous women and identify a potential additional motive as to why women delay childbearing, other than the social factors as aforementioned in the literature.

In general, continuous research exploring fear of childbirth, 'Tokophobia' and postnatal Post-Traumatic Stress Disorder is required so that the long term effects of these concepts can be understood and prevented. In addition, further research is necessary so that these concerns can be recognised as legitimate mental health conditions that significantly impact upon the maternal community.

Conclusion

In summary, we have discussed the statistical significance of the results of this study. We have examined the relevance, importance and implications of the research findings. We have also explored and critiqued the methodological advantages and disadvantages of this study in relation to the measurement tools used and the processes involved in the recruitment of participants. We have observed how the ethical considerations and implementations of this research have supported the reliability and validity of this study, and have provided credibility for our findings. From the criticisms and limitations we have identified amendments for the replication of this study and areas within this field of Psychology that require further research. The findings have also identified other areas and aspects of maternal mental health that might benefit from attention within the research community.

To conclude, the findings of this study have provided evidence to strongly suggest that Fear of Childbirth is a serious and pertinent issue that is impacting upon the maternal experiences and lives of many women. The findings have also provided evidence to demonstrate how childbirth is a traumatic event, so much so that it can lead to mothers being at severe risk of developing Post-Traumatic Stress Disorder. A greater breadth of research examining this area of Psychology is still required in order to establish how these conditions have a need to be recognised and addressed by mental and maternal health authorities. It can be noted that the present study has provided evidence to support the recognition of ‘Tokophobia’ as a recognised clinical Fear of Childbirth and Postnatal Post-Traumatic Stress Disorder as a legitimate maternal mental health condition. Current media attention, coupled with emerging research within this area of Psychology, should contribute to the overall progression and understanding of the severity of the extreme concerns surrounding maternal mental health.

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Appendix A

Participant Recruitment Message Posted on Researcher's Own and 'Mum and Baby' Facebook Groups

Hi everyone,

I'd be very grateful if anyone who has had a baby in the last 2 years could take 5 – 10 minutes to please complete two short online questionnaires.

I'm conducting research looking into Fear of Childbirth and symptoms of Postnatal Post Traumatic Stress Disorder for my Masters in Family & Child Psychology at the University of Chester.

Please send me a PM if you'd like to participate and I will send you the link to the questionnaires and information about the study for you to read through and check that you're eligible to participate. If you're willing to go ahead then please do – I'd really appreciate it!

Anyone who has suffered from mental health issues (including PTSD), please do not volunteer to take part.

Many thanks!

Georgina 🙂

Appendix B

Message Sent to 'Mum and Baby' Facebook Group Admins

Hi (Name), I'm conducting research for my Masters in Family and Child Psychology at the University of Chester and I'm wondering if you would mind if I posted on the (Facebook Group Name) Facebook page to try and recruit some participants?

EXAMINING THE CORRELATION BETWEEN FEAR OF CHILDBIRTH AND POSTNATAL POST-TRAUMATIC STRESS DISORDER

The research is looking into Fear of Childbirth and symptoms of Postnatal Post-Traumatic Stress Disorder and I'm just asking for mums to fill in a questionnaire online that takes about 5 mins to complete.

I'd really appreciate if you would be okay for me to do so, but im aware that there are rules at what can be posted so I understand if you feel it would be unsuitable to post here!

Please let me know what you think and thank you ☺

Appendix C

Wijma Delivery Expectancy/Experience Questionnaire (WDEQ-B; Wijma, Wima, & Zar, 1998)

How did you experience your labour and delivery as a whole?							
1. Extremely fantastic	1	2	3	4	5	6	Not at all fantastic
2. Extremely frightful	1	2	3	4	5	6	Not at all frightful
How did you feel in general during the labour and delivery?							
3. Extremely lonely	1	2	3	4	5	6	Not at all lonely
4. Extremely strong	1	2	3	4	5	6	Not at all strong
5. Extremely confident	1	2	3	4	5	6	Not at all confident
6. Extremely afraid	1	2	3	4	5	6	Not at all afraid
7. Extremely deserted	1	2	3	4	5	6	Not at all deserted
8. Extremely weak	1	2	3	4	5	6	Not at all weak
9. Extremely safe	1	2	3	4	5	6	Not at all safe
10. Extremely independent	1	2	3	4	5	6	Not at all independent
11. Extremely desolate	1	2	3	4	5	6	Not at all desolate
12. Extremely tense	1	2	3	4	5	6	Not at all tense
13. Extremely glad	1	2	3	4	5	6	Not at all glad
14. Extremely proud	1	2	3	4	5	6	Not at all proud
15. Extremely abandoned	1	2	3	4	5	6	Not at all abandoned
16. Extremely composed	1	2	3	4	5	6	Not at all composed
17. Extremely relaxed	1	2	3	4	5	6	Not at all relaxed
18. Extremely happy	1	2	3	4	5	6	Not at all happy
What did you feel during the labour and the delivery?							
19. Extreme panic	1	2	3	4	5	6	No panic at all
20. Extreme hopelessness	1	2	3	4	5	6	No hopelessness at all
21. Extreme longing for the child	1	2	3	4	5	6	No longing for the child at all
22. Extreme self-confidence	1	2	3	4	5	6	No self-confidence at all
23. Extreme trust	1	2	3	4	5	6	No trust at all
24. Extreme pain	1	2	3	4	5	6	No pain at all
What happened when labour was most intense?							

25. I behaved extremely badly	1	2	3	4	5	6	I did not behave badly at all
26. I dared to totally surrender control to my body	1	2	3	4	5	6	I did not dare surrender control to my body at all
27. I lost total control of myself	1	2	3	4	5	6	I did not lose control of myself at all
How was the very moment you delivered the baby?							
28. Extremely funny	1	2	3	4	5	6	Not at all funny
29. Extremely natural	1	2	3	4	5	6	Not at all natural
30. Extremely self-evident	1	2	3	4	5	6	Not at all self-evident
31. Extremely dangerous	1	2	3	4	5	6	Not at all dangerous
Had you, during the labour and delivery, fantasies like, for example…							
32. … that your child would die during labour/delivery?							
Never	1	2	3	4	5	6	Very often
33. … that your child would be injured during labour/delivery?							
Never	1	2	3	4	5	6	Very often

Appendix D

Impact of Events Scale – Revised (IES-R; Weiss, 2007)

Below is a list of difficulties people sometimes have after stressful life events. Please read each item, and then indicate how distressing each difficulty has been for you during the past seven days with respect to having given birth. How much have you been distressed or bothered by these difficulties?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Any reminder brought back feelings about it	0	1	2	3	4
2. I had trouble staying asleep	0	1	2	3	4
3. Other things kept making me think about it	0	1	2	3	4
4. I felt irritable or angry	0	1	2	3	4
5. I avoided letting myself get upset when I thought about it or was reminded of t	0	1	2	3	4
6. I thought about it when I didn't mean to	0	1	2	3	4
7. I felt as if it hadn't happened or wasn't real	0	1	2	3	4
8. I stayed away from reminders of it	0	1	2	3	4
9. Pictures about it popped into my mind	0	1	2	3	4
10. I was jumpy an easily startled	0	1	2	3	4
11. I tried not to think about it	0	1	2	3	4
12. I was aware that I still had a lot of feelings about it, but I didn't deal with them	0	1	2	3	4
13. My feelings about it were kind of numb	0	1	2	3	4
14. I found myself acting or feeling like I was back at that time	0	1	2	3	4
15. I had trouble falling asleep	0	1	2	3	4
16. I had waves of strong feelings about it	0	1	2	3	4
17. I tried to remove it from my memory	0	1	2	3	4
18. I had trouble concentrating	0	1	2	3	4
19. Reminders of it caused me to have physical reactions, such as sweating, trouble breathing, nausea, a pounding heart	0	1	2	3	4
20. I had dreams about it	0	1	2	3	4
21. I felt watchful and on-guard	0	1	2	3	4
22. I tried not to talk about it	0	1	2	3	4

24 or more	PTSD is a clinical concern. Those with scores this high who do not have full PTSD will have partial PTSD or at least some of the symptoms.
33 and above	This represents the best cut-off for a probable diagnosis of PTSD.
37 or more	This is high enough to suppress your immune system's functioning (even ten years after an impact event)

Appendix E

Participant Information Sheet

Invitation to participate

You are being invited to take part in a research study. Taking part is voluntary; it is up to you to decide whether or not to take part. Women, aged 18 years and over who have given birth in the last two years are invited to take part in this research study. Please do not take part if you suffer or have suffered from any of the following:

- Severe post-natal depression
- Health issues after giving birth
- Have been diagnosed with, or are being/have been treated for postnatal PTSD or postnatal psychosis
- Are likely, for any reason, to find this topic upsetting.

It is important for you to understand what the research is about and what it will involve. Please take time to read the following information carefully and discuss it with the investigator if you wish. If anything is unclear or you would like more information about the study then please ask.

What is this project about?

- The purpose of this study is to attempt to identify if there is any correlation between women's Fear of Childbirth and symptoms of postnatal Post Traumatic Stress disorder. The study will explore your perceived fear of childbirth and any traumatic symptoms you may have experienced following the birth of your child, using a scale that has been purposefully selected and designed for this experiment
- This study is a research project for my postgraduate Masters degree in Family and Child Psychology at the University of Chester. Should you decide not to participate or withdraw from the study at any point, this will have no negative impact on the project or the outcome of my degree.

What will I be asked to do?

- You will be asked to complete two questionnaires that will either be given to you by the researcher, or you may complete them online via the following link:

  _____
- It is important to note that you will not be assessed in any way or judged by the answers that you give. The information given is not being used to diagnose PTSD or any other kind of mental health disorder. All questionnaires and information are anonymous and will not be able to be traced back to you in any way.
- Again, it must be clear that you do not have to participate if you do not wish to. If you choose to participate, but at any point change your mind, you may stop participating and dispose of your questionnaires. You do not have to give a reason why and the

researcher will not ask why you have done this, nor will they chase you for your questionnaire.

- If you do wish to participate and complete the questionnaires, either by handing these back to the researcher or submitting your answers online, **you will be giving your full consent to participate** and for your results to be used in the research. As all submitted questionnaire sheets are anonymous, it will not be possible to withdraw your results from the data after this point. If you are unsure of what this means or would like reassurance on this, please speak to the researcher.
- Should you wish to participate, the questionnaires will take around 5 - 10 minutes to complete.

What are the advantages and disadvantages of taking part?
The advantage of taking part in this study is that it will contribute to the knowledge surrounding women's fear of childbirth and the effect that this has on the development of symptoms, and possible diagnosis, of postnatal Post Traumatic Stress Disorder (PTSD).

Taking part in this study is not expected to cause any discomfort or distress, but if such feelings do arise as a consequence of taking part, you can access advice or support at:

- PANDAS Foundation (Pre and Post Natal Depression Advice and Support) http://www.pandasfoundation.org.uk/ 0843 28 98 401
- The Birth Trauma Association http://www.birthtraumaassociation.org.uk/
- NCT https://www.nct.org.uk/

Alternatively, if you have any concerns or questions about the study you can contact one of the research team. Contact details for these are provided at the end of this sheet.

How will my information be used?
The information collected during this study will be used to produce my postgraduate masters dissertation. The people who might read this in an official capacity are my project supervisor, other members of the psychology staff and external examiners. Additionally, the information may be published in academic journals, presented at academic conferences, or used for teaching purposes. Although the information may be used for these purposes, you will not be identifiable in any way through these activities.

Please be aware that this is not being used as a tool to assess and diagnose postnatal PTSD or any other mental health disorder.

Will my information be confidential?
All of the information you provide will be anonymous and confidential. You will not be asked to write your name on any of the questionnaires, nor will they be able to be traced back to you in any way. All of the completed questionnaires will be securely stored by the researcher, and the results will only be able to be accessed by both myself and my supervisor. Once all the results have been calculated, all of the questionnaires will be destroyed.

Can I change my mind?
Yes, you can stop taking part in the study at any time. You may stop filling in the questionnaire and simply throw it away at any point. If you choose to complete it online, you may exit the web page at any time. It is important that you understand, however, that as

your questionnaire will be completed anonymously **you will be unable to withdraw from the study once you have submitted it to the researcher**.

Who can I contact for further information?

- Georgina Goodyear (Researcher): 1622307@chester.ac.uk
- Dr Liane Hayes (Supervisor): l.hayes@chester.ac.uk

What happens next?
Please think carefully about whether or not you wish to take part in the study. If you do wish to take part, please complete the questionnaires.

Thank you for considering participating.

Appendix F

Questions Involving Participant Demographics as Presented in Online Survey

Page 3: Section One

Please answer the following questions and then complete the two questionnaires. This should only take around 5 – 10 minutes of your time. When answering the questions, please think back to **your last or most recent pregnancy**. Please do not consider your thoughts or feelings from any previous childbirth experiences.

Thank you again for participating in this experiment.

1. Age

2. Number of Children

3. Time Since Last Gave Birth (Age of Youngest Child)

Appendix G

Formatted Version of Brief Used in Online Survey

Fear of Childbirth and Postnatal PTSD

Page 2: Participant Information

The purpose of this study is to attempt to identify if there is any correlation between women's Fear of Childbirth and symptoms of postnatal Post Traumatic Stress disorder. The study will explore your perceived fear of childbirth using a scale purposefully selected and designed for this experiment, and any traumatic symptoms you may have experienced following the birth of your child.

This study is a research project for my postgraduate Masters degree in Family and Child Psychology at the University of Chester. Should you decide to not participate or withdraw from the study at any point, this will have no negative impact on the project or the outcome of my degree.

This study has been ethically approved by the University of Chester Department of Psychology Ethics Committee.

By completing and submitting the following questionnaires, you will be agreeing to give your full consent to participate in the experiment.

< Previous Next >

Appendix H

Formatted Participant Information Page Used in Online Survey

Fear of Childbirth and Postnatal PTSD

Page 1: Participant Information

You are being invited to take part in a research study. Taking part is voluntary; it is up to you to decide whether or not to take part. Women, aged 18 years and over who have given birth in the last two years are invited to take part in this research study. Please do not take part if you suffer or have suffered from any of the following:

- Severe post-natal depression
- Health issues after giving birth
- Have been diagnosed with, or are being/have been treated for postnatal PTSD or postnatal psychosis
- Are likely, for any reason, to find this topic upsetting.

Next >

Appendix I

Participant Debrief Page Used in Online Survey

Fear of Childbirth and Postnatal PTSD

100% complete

End

This is the end of the questionnaires and experiment.

Thank you again for your participation in this study.

Should you have any further questions about the study or issues that may arise, please contact the researcher via email: 1622307@chester.ac.uk

By submitting your questionnaires, you will now be giving your full consent to participate and agreeing to allow for the information given to be used in this research.

Appendix J

SPSS Output Displaying Cronbach's Alpha Value if Items Deleted for Wijma Delivery Expectancy/Experience Questionnaire (WDEQ-B)

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q2REV0	60.5571	559.062	.761	.829	.904
Q1ZERO	60.4857	565.152	.677	.727	.906
Q3REV0	61.9714	584.811	.430	.840	.909
Q4ZERO	60.6143	581.980	.531	.742	.908
Q5ZERO	60.5000	579.326	.489	.779	.909
Q6REV0	60.6286	564.701	.610	.798	.907
Q7REV0	62.1857	591.342	.373	.906	.910
Q8REV0	61.1714	568.840	.582	.812	.907
Q9ZERO	61.2286	582.904	.440	.658	.909
Q10ZERO	60.5286	580.890	.470	.608	.909
Q11REV0	61.7857	579.620	.481	.760	.909
Q12REV0	60.3000	558.590	.689	.727	.905
Q13ZERO	61.0714	576.096	.506	.670	.908
Q14ZERO	61.5857	585.232	.437	.828	.909
Q15REV0	62.2286	586.295	.422	.857	.909
Q16ZERO	60.2857	574.903	.519	.757	.908
Q17ZERO	59.7857	568.171	.616	.781	.907
Q18ZERO	60.9143	576.543	.564	.751	.908
Q19REV0	60.7000	560.358	.691	.895	.905
Q20REV0	61.3429	566.258	.515	.666	.908
Q21ZERO	61.5571	611.236	.035	.533	.914
Q22ZERO	60.4286	571.002	.678	.794	.906
Q23ZERO	61.4571	579.034	.611	.740	.907
Q24REV0	59.3857	592.646	.309	.713	.911
Q25REV0	61.7286	590.201	.306	.715	.911
Q26ZERO	61.1571	598.395	.212	.529	.912
Q27REV0	61.0429	574.187	.504	.750	.908
Q28ZERO	59.1286	591.302	.308	.681	.911
Q29ZERO	61.0000	581.623	.347	.812	.911
Q30ZERO	61.0571	590.431	.359	.814	.910
Q31REV0	61.2000	587.235	.309	.531	.911
Q32ZERO	61.6000	592.214	.263	.780	.912
Q33ZERO	61.7286	584.143	.360	.795	.911

Appendix K

SPSS Output Displaying Cronbach's Alpha Value if Items Deleted for Impact of Events Scale-Revised (IES-R)

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q1ED	14.0571	280.924	.733	.761	.949
Q2ED	14.6429	286.320	.682	.719	.950
Q3ED	14.4714	281.354	.800	.834	.948
Q4	14.7429	293.991	.554	.615	.951
Q5	14.7000	290.648	.605	.567	.951
Q6	14.3857	277.400	.843	.843	.947
Q7	14.5571	292.250	.497	.700	.952
Q8	15.0000	290.812	.691	.858	.950
Q9	14.2000	282.365	.685	.693	.950
Q10	15.2143	298.866	.589	.729	.951
Q11	14.7571	288.476	.577	.776	.951
Q12	14.4857	276.369	.798	.788	.948
Q13	14.8429	291.787	.592	.646	.951
Q14	14.8857	286.161	.686	.795	.950
Q15	14.7571	286.592	.683	.758	.950
Q16	14.4857	277.906	.770	.758	.948
Q17	15.0143	296.826	.537	.727	.951
Q18	15.0000	291.478	.730	.823	.949
Q19	14.9714	284.231	.761	.851	.949
Q20	14.7429	278.773	.776	.744	.948
Q21	14.9429	289.272	.726	.762	.949

Appendix L

SPSS Output Displaying Participant Descriptive Statistics

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Age	70	25	19	44	31.87	5.443
Number of Children	70	3	1	4	1.53	.675
Time Since Last Gave Birth (Age of Youngest Child)	70	21	3	24	13.19	6.330
Valid N (listwise)	70					

Appendix M

SPSS Output Displaying 'Fear Total Score' and 'Trauma Total Score' Descriptive Statistics

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
FearTotal	70	115.00	19.00	134.00	62.8857	24.79805
TraumaTotal	70	58.00	.00	58.00	15.4429	17.76059
Valid N (listwise)	70					

Appendix N

SPSS Output Displaying Cronbach's Alpha Coefficient for Wijma Delivery Expectancy/Experience Questionnaire (WDEQ-B)

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.911	.912	33

Appendix O

SPSS Output Displaying Cronbach's Alpha Coefficient for Impact of Event Scale – Revised (IES-R)

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.952	.952	21

Appendix P

SPSS Output Displaying Pearson Product-Moment Correlation Coefficients

Correlations

		FearTotal	TraumaTotal
FearTotal	Pearson Correlation	1	.489**
	Sig. (2-tailed)		.000
	N	70	70
TraumaTotal	Pearson Correlation	.489**	1
	Sig. (2-tailed)	.000	
	N	70	70

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix Q

SPSS Outputs Displaying Model Summary, ANOVA and Multiple Regression Coefficients of Age, Parity, and Time Since Delivery for 'Fear Total Score'

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2	Sig. F Change
1	.480[a]	.231	.196	22.23723	.231	6.602	3	66	.001

a. Predictors: (Constant), Time Since Last Gave Birth (Age of Youngest Child), Age, Number of Children

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9794.450	3	3264.817	6.602	.001[b]
	Residual	32636.635	66	494.494		
	Total	42431.086	69			

a. Dependent Variable: FearTotal

b. Predictors: (Constant), Time Since Last Gave Birth (Age of Youngest Child), Age, Number of Children

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	124.114	17.130		7.245	.000
	Age	-1.600	.512	-.351	-3.123	.003
	Number of Children	-8.623	4.143	-.235	-2.082	.041
	Time Since Last Gave Birth (Age of Youngest Child)	.223	.424	.057	.525	.601

a. Dependent Variable: FearTotal

Appendix R

SPSS Outputs Displaying Model Summary, ANOVA and Multiple Regression Coefficients of Age, Parity, and Time Since Delivery for 'Trauma Total Score'

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.400[a]	.160	.122	16.64408

a. Predictors: (Constant), Time Since Last Gave Birth (Age of Youngest Child), Age, Number of Children

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3481.588	3	1160.529	4.189	.009[b]
	Residual	18283.683	66	277.025		
	Total	21765.271	69			

a. Dependent Variable: TraumaTotal

b. Predictors: (Constant), Time Since Last Gave Birth (Age of Youngest Child), Age, Number of Children

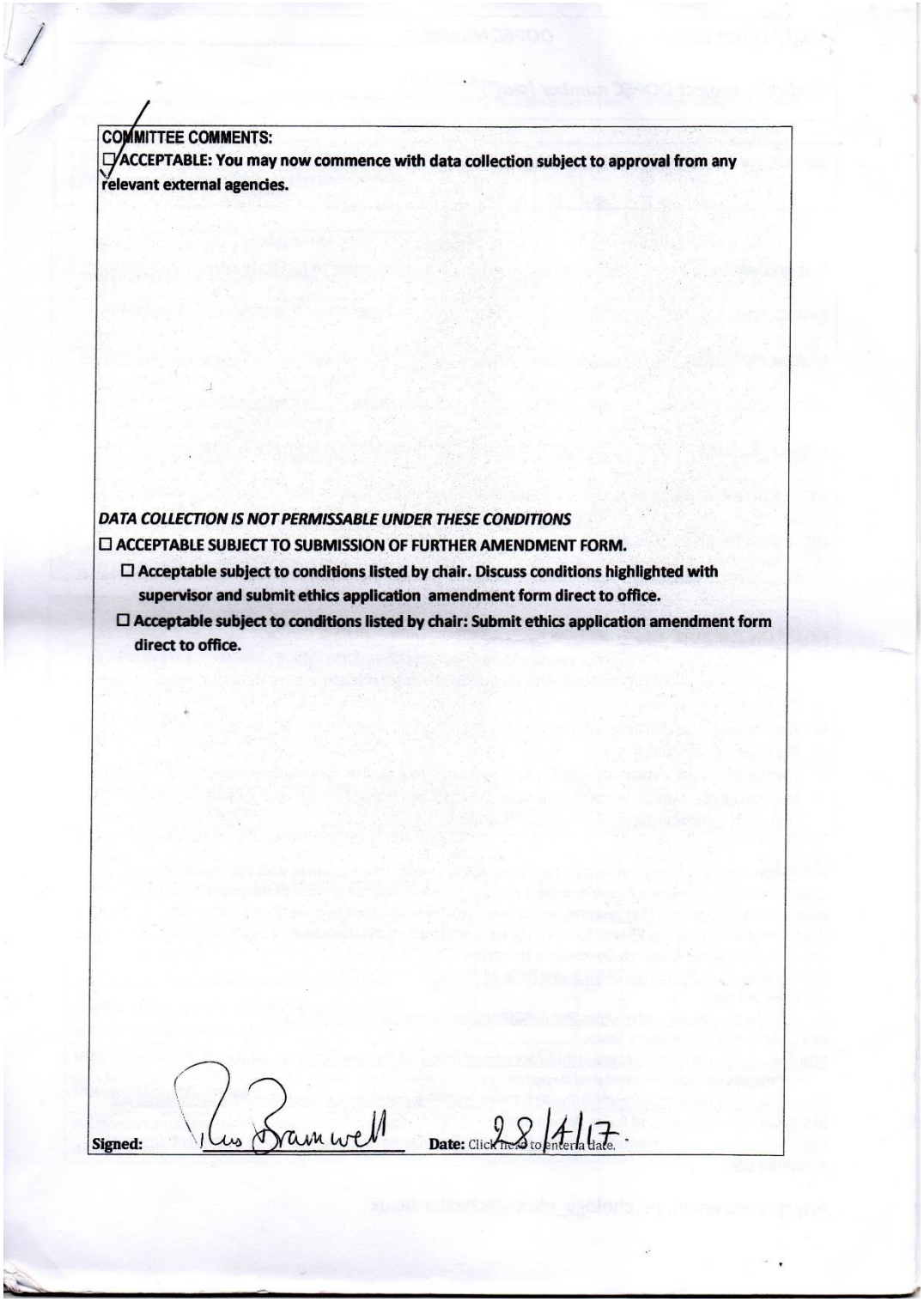
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	53.103	12.822		4.142	.000
	Age	-1.235	.383	-.378	-3.221	.002
	Number of Children	-.872	3.101	-.033	-.281	.779
	Time Since Last Gave Birth (Age of Youngest Child)	.230	.318	.082	.723	.472

a. Dependent Variable: TraumaTotal

Appendix S

Ethics Application Form



COMMITTEE COMMENTS:

☑ **ACCEPTABLE: You may now commence with data collection subject to approval from any relevant external agencies.**

DATA COLLECTION IS NOT PERMISSABLE UNDER THESE CONDITIONS

☐ **ACCEPTABLE SUBJECT TO SUBMISSION OF FURTHER AMENDMENT FORM.**

☐ **Acceptable subject to conditions listed by chair. Discuss conditions highlighted with supervisor and submit ethics application amendment form direct to office.**

☐ **Acceptable subject to conditions listed by chair: Submit ethics application amendment form direct to office.**

Signed: Lis Bramwell **Date:** 28/4/17.

University of Chester

UNIVERSITY OF CHESTER, DEPARTMENT OF PSYCHOLOGY
APPLICATION FOR ETHICAL APPROVAL AMENDMENT FORM

A) Applicant and personnel

Applicant: Georgina Goodyear
Project title: Examining the correlation between Fear of Childbirth and postnatal PTSD.
Applicant status: ☐ Staff → Go to Section B ☐PGR ☐Undergraduate ☒Postgraduate taught
Supervisor: Dr Liane Hayes

B) Declaration

1. ☒ I have submitted an application for ethical approval to the Department of Psychology Ethics Committee and I am required to make the following amendments to my application.
List the recommendations of the committee. State intended sample size. Written consent from children's centre. Plans to collect demographic data such as age, parity, time since delivery.
Describe how you have addressed these requirements. Intended sample size has been listed in Question 10. Email sequence confirming consent from children's centre has been attached to the application as Appendix 7. Appendices 2 & 3 have been modified to the format in which the questionnaires will be given to participants. These have now been included with questions to identify participants age, parity, and time since delivery. This also gives a clear indication that the participants are being asked about their most recent childbirth experience. This has been added as Appendix 8.

2. ☐ I have submitted an application for ethical approval to the Department of Psychology Ethics Committee that was approved on Click here to enter a date.
I wish the committee to consider the following amendments I would like to make to the research plan (attach the original approved application form) *Click here to enter text.*

☐ I am a member of staff. **Signed:** _____ **Date:** Click here to enter a date.
Print the amendment form on BLUE PAPER and submit to the Dept. Office
☒ I am an UG/PGT/PGR student. I have discussed any amendments with my project supervisor.
Print the amendment form on BLUE PAPER and submit to the Dept. Office

Signed: Georgina **(Lead Applicant) Date:** 5/4/17

Supervisor comments:
I have discussed the recommendations of the committee with the applicant and I am satisfied they have met the stated requirements./I support the amendments to the research plan. (delete as appropriate)
☒ Yes Sign and date the form ☐ No Comments: *Click here to enter text.*

Dopec
GGLH02017

Refer to Appendix T for Appendix 7
Refer to Appendix F for Appendix 8

Signed: (Supervisor) Date: 06/04/2017

EXAMINING THE CORRELATION BETWEEN FEAR OF CHILDBIRTH AND POSTNATAL POST-TRAUMATIC STRESS DISORDER

Staff / Office Use Only ***DOPEC NUMBER: _____***

Umbrella project DOPEC number (staff)_____

APPLICANT SURNAME: GOODYEAR

Please complete all questions by underlining the correct response to facilitate correct processing

APPLICANT: **UG** **PGT** **PGR** **STAFF**

REVIEW PROCESS: **Accelerated / Full**

APPLICATION STATUS: **NEW APPLICATION, MAJOR AMENDMENT, RESUBMISSION**

APPLICATION FOR: **DISSERTATION, TEACHING, RESEARCH & PUBLICATION**

ATTTENDENCE AT HEALTH & SAFETY BRIEFING: **YES / NO / NA**

INCLUSION OF RISK ASSESSMENT FORM: **YES / NO / NA**

NOTES ON THE ROLE AND FUNCTION OF THE DEPARTMENT OF PSYCHOLOGY ETHICS COMMITTEE.

- *All decisions of the committee are based on the application form and reviewers comments ONLY. Forms should be as detailed and clear as possible. Verbal discussions are not considered as part of the application or review process.*
- *The review process strictly adheres to the University of Chester Research Governance Handbook and the BPS Code of Ethics.*
- *The decision of the committee is final. If you are a UG, PGT or PGR student you should discuss the decision of the committee with your supervisor. If you are a member of staff you may contact the chair of the committee for further clarification.*

Before completing the form researchers are expected to familiarise themselves with the regulatory codes and codes of conduct and ethics relevant to their areas of research, including those of relevant professional organisations and ensure that research which they propose is designed to comply with such codes.

Department of Psychology Ethical Approval for Research: Procedural Guidelines.

University of Chester Research Governance Handbook

http://ganymede2.chester.ac.uk/view.php?title_id=522471

BPS Code of Ethics

http://www.bps.org.uk/system/files/Public%20files/bps_code_of_ethics_2009.pdf

CHECK LIST.

Notes: Students to indicate where information is found, supervisor to confirm by ticking green column	Supervisor confirmation	Information. sheet	Letter	Email	Email info. page	Consent Form	PowerPoint	N/A
Brief details about the purpose of the study	☒	☒	☐	☐	☐	☐	☐	☐
Contact details for further information	☒	☒	☐	☐	☐	☐	☐	☐
Explanation of how and why participant has been chosen	☒	☒	☐	☐	☐	☐	☐	☐
Notification that materials/interviews are not diagnostic tools/therapy or used for staff review/development purposes	☒	☒	☐	☐	☐	☐	☐	☐
Explanation participation is voluntary	☒	☒	☐	☐	☐	☐	☐	☐
Details of any incentives or compensation	☒	☐	☐	☐	☐	☐	☐	☒
Details of how consent will be obtained	☒	☒	☐	☐	☐	☐	☐	☐
If research is observational, consent to being observed	☒	☐	☐	☐	☐	☐	☐	☒
Details of procedure so participants are informed about what to expect	☒	☒	☐	☐	☐	☐	☐	☐
Details of time commitments expected	☒	☒	☐	☐	☐	☐	☐	☐
Details of any stimuli used	☒	☐	☐	☐	☐	☐	☐	☒
Explanation of right to withdraw and right to withdraw procedure	☒	☒	☐	☐	☐	☐	☐	☐
Option for omitting questions participant does not wish to answer	☒	☒	☐	☐	☐	☐	☐	☐
Procedure regarding partially completed questionnaires or interviews	☒	☒	☐	☐	☐	☐	☐	☐
With interviews, information regarding time limit for withdrawal	☒	☐	☐	☐	☐	☐	☐	☒
Details of any advantages and benefits of taking part	☒	☒	☐	☐	☐	☐	☐	☐
Details of any disadvantages and risks of taking part	☒	☒	☐	☐	☐	☐	☐	☐
Information that data will be treated with full confidentiality and that, if published, those data will not be identifiable as theirs	☒	☒	☐	☐	☐	☐	☐	☐
Debriefing details	☒	☐	☐	☐	☐	☐	☐	☒
Dissemination information	☒	☒	☐	☐	☐	☐	☐	☐
Further information (relevant literature; support networks etc)	☒	☒	☐	☐	☐	☐	☐	☐

Please complete the form below indicating attached materials. Prior to submission supervisors must confirm that they have reviewed the application by completing the supervisors column.

Supervisor Signature:  ***Date:*** **02/02/17**

DEPARTMENT OF PSYCHOLOGY
APPLICATION TO DEPARTMENTAL ETHICS COMMITTEE

University of Chester

IN COMPLETING THE FORM UG & PGT STUDENTS PLEASE REFER TO YOUR HANDBOOK

Question 1: Working title of the study

Notes: The title should be a single sentence

Examining the correlation between Fear of Childbirth and postnatal PTSD.

Question 2: Applicant, name and contact details.

Notes: The primary applicant is the name of the person who has overall responsibility for the study. Include their appointment or position held and their qualifications. For studies where students and/or research assistants will undertake the research, the primary applicant is the student (UG, PGT, PGR) and supervisor is the co-applicant.

Georgina Goodyear BSc (Hons)

PGT Family & Child Psychology MSc Student

Question 3: Co-applicants

Notes: List the names of all researchers involved in the study. Include their appointment or position held and their qualifications.

EXAMINING THE CORRELATION BETWEEN FEAR OF CHILDBIRTH AND POSTNATAL POST-TRAUMATIC STRESS DISORDER

Liane Hayes, Senior Lecturer, BSc (Hons) MPhil, PhD, PGCE, CPsychol, FHEA.

Question 4: What are the start and end dates of the study?

Notes: If exact dates are unavailable, explain why and give approximate dates.

March 2017 – 27th September 2017

Question 5: Is this project subject to external funding?

Notes: Please provide details of the funding body, grant application and PI.

No

Question 6: Briefly describe the purpose and rationale of the research

Notes: In writing the rationale make sure that the research proposed is grounded in relevant literature, and the hypotheses emerge from recent research and are logically structured.

PGR / Staff if this application is for a funded project please attach any detailed research proposals as appropriate.

Maximum word length (300 words)

In the Ayers, McKenzie-McHarg & Slade (2015) article on Post-traumatic stress disorder after birth, Postnatal PTSD is presented as a relatively new concept that has only been investigated over the past two decades. In saying so, there is a plethora of evidence to suggest that the experienced symptoms of the disorder are not all that uncommon. The paper argues that PTSD develops as a result of events that occur during the perinatal period which could be alleviated with the correct forms of support and attention.

Garthus-Niegel, von Soest, Vollrath & Eberhard-Gran (2013) found that subjective experience and the fear of childbirth have the strongest effect on postnatal PTSD symptoms. Boorman et al (2014) found that intense fear during childbirth was the most likely cause of postnatal PTSD. In addition, it has also been reported that a lack of support and interpersonal problems between pregnant women and healthcare staff are also associated with post-traumatic stress disorder (Harris & Ayers, 2012).

It has been suggested that fear of childbirth - known as tokaphobia – and PTSD can be reduced with appropriate midwife care. Fear of birth affects women's choices about birth intervention, and subjective experience and fear during childbirth are central in the development of postnatal PTSD (Ayers, 2014).

In summary, it is apparent that fear of childbirth is what leads to postnatal PTSD, and this can be prevented through appropriate support during pregnancy, childbirth, and the postnatal period. For the purpose of this research, we would aim to examine the correlation between fear of childbirth and postnatal PTSD symptoms. This would give light to the required amount of support from midwives and healthcare professionals in order to address this mental health issue in perinatal women.

Question 7: Describe the methods and procedures of the study

Notes: Attach any relevant material (questionnaires, supporting information etc.) as appendices and summarise them briefly here (e.g. Cognitive Failures Questionnaire: a standardised self-report measure on the frequency of everyday cognitive slips). Do not merely list the names of measures and/or their acronyms. Include information about any interventions, interview schedules, duration, order and frequency of assessments. It should be clear exactly what will happen to participants. If this is a media based study describe and list materials include links and sampling procedure. (500 words)

Participants will be given an information sheet, which will include a brief (Appendix 1) ***Refer to Appendix E*** and then be asked to complete two questionnaires.

The first questionnaire will be a revised version of the Wijma Delivery Expectancy/Experience Questionnaire (WDEQ-B; Wijma et al., 1998). The WDEQ questionnaire is internationally used, and this version (B) measures a woman's construct of fear of childbirth after delivery (Fenaroli & Saita, 2013). The questionnaire consists of 33 items on a 6-point Likert scale. The version of the questionnaire used for this experiment was translated into English from Italian by Fenaroli & Saita (2013). This will give a Fear of Childbirth score to use for analysis (Appendix 2) ***Refer to Appendix C*.**

The second questionnaire will be the Impact of Events Scale – Revised (Weiss, 2007). The Impact of Event Scale – Revised (IES – R) measures the effect of routine life stress, everyday traumas and acute stress. It consists of 22 questions with a scoring range of 0 to 88. Scores of 24 or more are considered to display symptoms of partial PTSD, with 33 or more representing the cut-off for diagnosis of PTSD. This will give a PTSD symptom/risk score to compare to the Fear of Childbirth score (Appendix 3) ***Refer to Appendix D***.

Participants will be requested to complete both questionnaires consecutively. The experiment will take approximately 5 – 10 minutes to complete. The questionnaires will be available to complete either online via Bristol Online Surveys or on a printed out hard copy.

Question 8: Has the person carrying out the study had previous experience of the procedures? If not, who will supervise that person?

Notes: Say who will be undertaking the procedures involved and what training and/or experience they have. If supervision is necessary, indicate who will provide it.

Yes. The applicant will be undertaking the procedures involved. They have previous experience collecting data from postnatal women regarding perinatal issues. They are therefore aware of the sensitive nature of the subject area and will be able to approach the topic and address the participants in the appropriate manner.

The researcher also has experience of collecting data with questionnaires, and understands the importance of ensuring anonymity and confidentiality. They are also aware of the importance of securely storing the data.

The applicant does not have experience using the two specific measures used in this study. For this, they will consult their supervisor (the co-applicant) to ensure the questionnaires have been interpreted and analysed correctly.

Question 9: What ethical issues does this study raise and what measures have been taken to address them?

Notes: Describe any discomfort or inconvenience that participants may experience. Include information about procedures that for some people could be physically stressful or might impact on the safety of participants, e.g. interviews, probing questions, noise levels, visual stimuli, equipment; or that for some people could be psychologically stressful, e.g. mood induction procedures, tasks with high failure rate. Discuss any issues of anonymity and confidentiality as they relate to your study, refer to ethics handbook and guidance notes at the end of the form. If animal based include ethical issues relating to observation.

It is not expected that the participants will experience any kind of discomfort or inconvenience. The only ethical issue that arises is that some participants may find the subject matter upsetting or not feel comfortable answering some of the questions. In order to address this, it will be ensured that participants understand that they can withdraw from the study at any point and without consequence. The participants will be able to stop completing the questionnaires and dispose of them at any point should they wish to do so. Should any of the participants feel somewhat upset or distressed by the experiment, they will be provided with the details of a number of support networks along with the contact details of the research team.

In order to reduce the risk of any distress or the study causing psychological harm some women will not be eligible to participate in the experiment. Women who are suffering from severe postnatal depression, have had health problems after giving birth, or who have been diagnosed with and have been/are being treated for postnatal PTSD or postnatal psychosis will not be eligible to take part.

The questionnaires used and the results provided by the data will not be used as a tool to diagnose or treat PTSD. All questionnaires will be anonymous and it will not be possible to trace the results of a questionnaire back to the relevant participant. Any participants who are unsure of this will be reassured that this is not the intention of the study, nor will they be assessed or diagnosed with a mental health condition.

Question 10: Who will the participants be?

Notes: Describe the groups of participants that will be recruited and the principal eligibility criteria and ineligibility criteria. Make clear how many participants you plan to recruit into the study in total.

The participants will be postnatal women who have given birth within the last two years. The reason for this would be to ensure that the memory recall of the event and experience will be relatively accurate.

Both primigravida and multigravida women will be eligible to take part in the study. Participants will be at least 18 years of age, with no maximum cut off age. The reason for this eligibility criteria is that demographics such as age and parity will not be assumed as confounding variables.

Any women who have been diagnosed with, or are still suffering from, severe postnatal depression will be requested to not participate. This will also include women who have been diagnosed with and/or are being treated for postnatal PTSD or postnatal psychosis.

Women who have suffered from health issues after giving birth or any women who feel they may find the subject matter distressing will also be asked not to participate.

A minimum number of 60 participants will be recruited.

Question 11: Describe participant recruitment procedures for the study

Notes: Gives details of how potential participants will be identified or recruited. Include all advertising materials (social media messages, posters, emails, letters, verbal script etc.) as appendices and refer to them as appropriate. Describe any screening examinations. If it serves to explain the procedures better, include as an appendix a flow chart and refer to it.

In order to recruit participants, notices will be placed on Social Media websites such as Facebook through both local and national 'Mum & Baby' pages (Appendix 4) ***Refer to Appendix A***

Notices will also be placed in order to recruit student parents and staff members at the University of Chester. This will also be done through the use of social media pages (Appendix 5) ***Refer to Appendix A*–** including the applicant's own personal social media accounts.

Participants will also be recruited through the Research Participation System (RPS) at the University of Chester.

Potential participants will also be recruited from playgroups at the Lache and Handbridge Children's Centre. Permission to do so will be obtained both verbally and via email (Appendix 6) ***Refer to Appendix T*** from the correct managerial staff members at the Children's Centre.

Question 12: Describe the procedures to obtain informed consent

*Notes: Describe when consent will be obtained. If consent is from **adult participants**, give details of who will take consent and how it will be done. If you plan to seek informed consent from **vulnerable groups** (e.g. people with learning difficulties, victims of crime), say how you will ensure that consent is voluntary and fully informed.*

*If you are recruiting **children or young adults** (aged under 18 years) specify the age-range of participants and describe the arrangements for seeking informed consent from a person with parental responsibility. If you intend to provide children under 16 with information about the study and seek agreement, outline how this process will vary according to their age and level of understanding.*

How long will you allow potential participants to decide whether or not to take part? What arrangements have been made for people who might not adequately understand verbal explanations or written information given in English, or who have special communication needs?

If you are not obtaining consent, explain why not.

Potential participants who approach the researcher will be given an information sheet before they agree to participate. This will include all relevant information about the study and a declaration stating that by completing the questionnaires and handing these to the researcher, they will be giving their consent for participation and for their results to be included in the analysis of the research.

Participation in this study will be voluntary, and so consent will be obtained by participants agreeing to take part.

The researcher will also explain this verbally to any participants who do not complete the questionnaire online, as they will have the opportunity to discuss their consent to participate in person.

All participants will have the right to withdraw up until the point of the submission of their completed questionnaires. They will be informed in the information sheet that at any point they may stop completing the questionnaire and either shut down the online questionnaire web page or dispose of their hard copy questionnaires themselves.

Question 13: Will consent be written?

No (delete as appropriate)

*Notes: If **yes**, include a consent form as an appendix. If **no**, describe and justify an alternative procedure (verbal, electronic etc.) in the space below.*

Guidance on how to draft Participant Information sheet and Consent form can be found on PS6001 Moodle space and in the Handbook.

The participant information sheet will include a declaration stating that by completing the questionnaires and handing these to the researcher or submitting their results online, the participants will be giving their consent for participation and for their results to be included in the analysis of the research.

By completing and submitting the questionnaires, obtained consent from the participants will be implicit.

In addition, any participants who complete a hard copy of the questionnaire will be verbally informed by the researcher that they will be giving their full consent to participate by handing their completed questionnaires back to the researcher.

Question 14: What will participants be told about the study? Will any information on procedures or the purpose of study be withheld?

Notes: Include an Information Sheet that sets out the purpose of the study and what will be required of the participant as appendices and refer to it as appropriate. If any information is to be withheld, justify this decision. More than one Information Sheet may be necessary.

No information on procedures or the purpose of the study will be withheld from the participants.

Refer to Appendix 1 ***Refer to Appendix E*** for full Participant Information Sheet.

Question 15: Will personally identifiable information be made available beyond the research team (e.g. report to organisation)?

Notes: If so, indicate to whom and describe how confidentiality and anonymity will be maintained at all stages.

No. All completed questionnaires will be anonymous. All questionnaires will be securely stored, interpreted, and the results analysed by the researcher. The project supervisor will be the only other individual who will be given access to this information.

Question 16: What payments, expenses or other benefits and inducements will participants receive?

Notes: Give details. If it is monetary say how much, how it will be paid and on what basis is the amount determined. Indicate RPS credits.

External participants will not receive any kind of payment or expense for their participation.

Any Psychology students at the University of Chester who are eligible to participate will receive 1 RPS credit.

Question 17: At the end of the study, what will participants be told about the investigation?

Notes: Give details of debriefings, ways of alleviating any distress that might be caused by the study and ways of dealing with any clinical problem that may arise relating to the focus of the study.

All information about the investigation will be disclosed in the Participant Information Sheet.

Should any of the participants feel distressed or have issues that may arise as a result of participating in the study, a list of support networks has been listed on the Participant Information Sheet.

In addition, participants will also be provided with the contact details of both the researcher and the supervisor should they have any follow up questions or wish to be put in contact with an independent representative at the university.

Question 18: What arrangements are there for data security during and after the study?

Notes: Digital data stored on a computer requires compliance with the Data Protection Act; indicate if you have discussed this with your supervisor and describe any special circumstances that have been identified from that discussion. Say who will have access to participants' personal data and for how long personal data will be stored or accessed after the study has ended.

Electronic responses will be stored on a password protected computer and hard copies will be stored in a secure folder in a locked filing cabinet. The data will be retained until the award is made. This is expected to be in December 2017.

Signatures of the study team (including date)

Notes: The primary applicant and all co-applicants must sign and date the form. Scanned or electronic signatures are acceptable.

Georgina Goodyear 2/2/2017

Appendix T

Email sequence confirming consent from Lache and Handbridge Children's Centre to recruit participants during playgroup sessions.

From: GEORGINA GOODYEAR [mailto:1622307@chester.ac.uk]
Sent: 27 March 2017 17:01
To: GIBSON, Tammy
Subject: Research Participant Recruitment

Hi Tammy,

As discussed, please find attached a questionnaire I am using to conduct research for my Masters in Family and Child Psychology at the University of Chester.

I am looking for women who have had a baby in the last two years to volunteer to participate in the study. The study is examining the effects of Fear of Childbirth on symptoms of Postnatal Post Traumatic Stress Disorder (PTSD), and consists of two short questionnaires that take 5 – 10 minutes to complete.

I am wondering if you would kindly be able to give permission to recruit participants at the Lache and Handbridge Children's Centre? All I would do is ask if any Mums would be willing to participate, hand out questionnaires and then collect these directly from them when they have been completed.

I have also attached an information sheet with all of the details of the research for your consideration.

Thank you again for your help and support with this. I would be grateful if you could please let me know if I would be able to do so by a confirmation email.

Best Wishes,

Georgina

On 28 Mar 2017, at 08:09,
GIBSON, Tammy <Tammy.Gibson@cheshirewestandchester.gov.uk> wrote:

Hi Georgina,

I have sent the questionnaire to be quickly checked by my lead to ensure that this is okay-although I'm pretty sure it will be! If so I am happy for you to ask parents and give them out in let's play.

I will let you know as soon as I have heard ☺

From: GEORGINA GOODYEAR [mailto:1622307@chester.ac.uk]
Sent: 24 April 2017 10:28

To: GIBSON, Tammy
Subject: Re: info

Hi Tammy,

Thank you so much for that. I'm also wondering if you've heard anything back yet about permission to recruit participants during the let's play sessions? Again I really appreciate your help with this!

Best wishes
Georgina

On 24 Apr 2017, at 11:27, GIBSON, Tammy <Tammy.Gibson@cheshirewestandchester.gov.uk> wrote:

Not a problem lovely,

Yes my manager said it's absolutely fine if you want to ask families in the session to fill it in. if you want I can ask at the start of the session